LOAD FORECAST

Economics &
Forecasts Division

LOAD FORECASTS REPORT

NO. 851209

SYSTEM DEMANDS

Load Forecasts Department
Economics and Forecasts Division
Power System Program Branch

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INTRODUCTION

The Load Forecasts Department issues two load forecasts each year:

Long-Term Forecast: (previously called the Planning Forecast) Produced in the fall for system planning purposes, with emphasis on total system demand and a time horizon of approximately 20 years.

Short-Term Forecast: (previously called the Budget Forecast) Produced late spring for revenue planning, rate development and budget purposes.

This Load Forecast Report 851209 contains the two forecasts produced and approved in the calendar year 1985: Short-Term Load Forecast approved by the Executive Office on August 20, 1985; and the Long-Term Forecast approved by the Board of Directors on December 9, 1985. The previous forecast, supplanted by these two forecasts, was the Planning Load Forecast, approved by the Board of Directors on December 10, 1984.

The Load Forecast Report consists of two parts. The first part is a summary of most likely demands (peak and energy) at system and network level of aggregation, while the second part consists of the detail of non-coincident peak loads of system customers.

The Power System Operations Division prepares an hour-by-hour analysis which matches forecast loads and resources for selected periods of each year of the short-term forecast period. The System Planning Division undertakes similar work on a longer term basis. In both cases, account is taken of the effects of planned and forced outages. In this connection, the Load Forecast Department has conducted studies of the changing hourly load pattern during the year.

There also exist supplementary reports which provide extra detail for the second part of the report. These are companion reports in the same format which show:

(a) individual customers monthly energy;

(b) customers' loads coincident with system peak demands;

(c) an aggregation of all types of load within areas projected to the year 2010.

These reports are not printed for wide distribution because they are of limited interest to most users of the report, and are available in machine-readable form for users who require the data.

As new information becomes available it is processed and stored in the dynamic forecast file. This file is kept up to date on a continuous basis and if the aggregate load changes are significant a revised forecast is issued.

1.0 SHORT-TERM FORECAST - 1985 to 1990

1.1 Highlights

The 1985 Short-Term Forecast for energy sales is marginally higher than the 1984 Budget Load Forecast. The average rate of growth foreseen for the 1984-1990 period is 2.6%, only .1 percentage point higher than the average rate of growth for the same period projected in the 1984 Budget Load Forecast. On the other hand, the 1985 Short-Term December 1-Hour Peak Forecast is lower than the corresponding 1984 Budget Load Forecast, going from .7% lower in 1985 to 1.3% lower in 1989.

The marginal changes in forecast sales largely reflect the actual experience of 1984 and the first six months of 1985. Actual peak sales have been below forecast levels for this period. Actual energy sales in the first three quarters of 1984 and in the first quarter of 1985 were slightly above forecast levels, but in the second quarter, given the accuracy limitations of weather correction methodology, the actual sales level could be considered to be as forecasted.

1.1.1 Short-Term Forecast

The 1985 Short-Term forecast for the total system is:

Primary Demands

Year	December 1-Hour Coincident Peak		Annual Energy		
	MW	% Inc.	Av.MW	TWh	% Inc. (TWh)
1984 Actual	17952		12784	112.3*	
1985	19259	7.3	13140	115.1	2.5
1986	19697	2.3	13438	117.7	2.3
1987	20245	2.8	13820	121.1	2.8
1988	20814	2.8	14166	124.4*	2.8
1989	21337	2.5	14548	127.4	2.4
1990	21932	2.8	14941	130.9	2.7
Avg. % Inc. 1984-1990		3.4			2.6

*Affected by Leap Year.

1.1.2 Comparison to Previous Forecasts

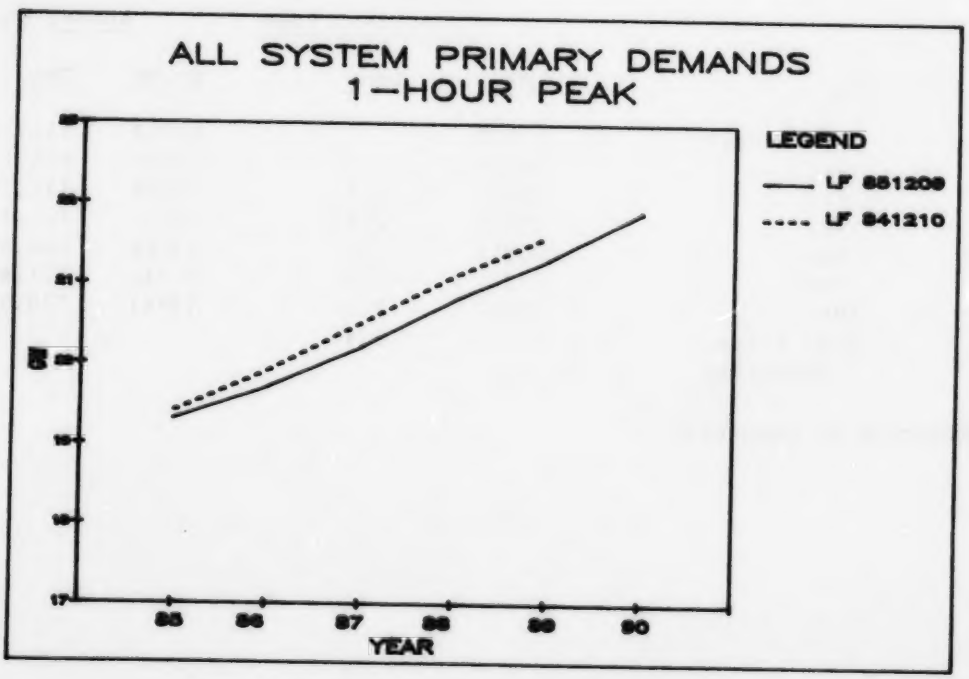
The level of energy demand forecast over the whole forecast period is marginally higher than that of the 1984 Budget Load Forecast.

All Systems Primary Demands

1-Hour Coincident Peak

December	1985 Short-Term Load Forecast Peak MW	% Inc.	Change from 841210 MW	Change from 841210 %	Forecast No. 841210 MW	Forecast No. 841210 % Inc.
1984	17952(A)				18766	
1985	19259	7.3	-136	- .7	19395	3.4
1986	19697	2.3	-183	-0.9	19880	2.5
1987	20245	2.8	-223	-1.1	20468	3.0
1988	20814	2.8	-237	-1.1	21051	2.8
1989	21337	2.5	-285	-1.3	21622	2.7
1990	21932	2.8	-166	-.8	22098	2.2

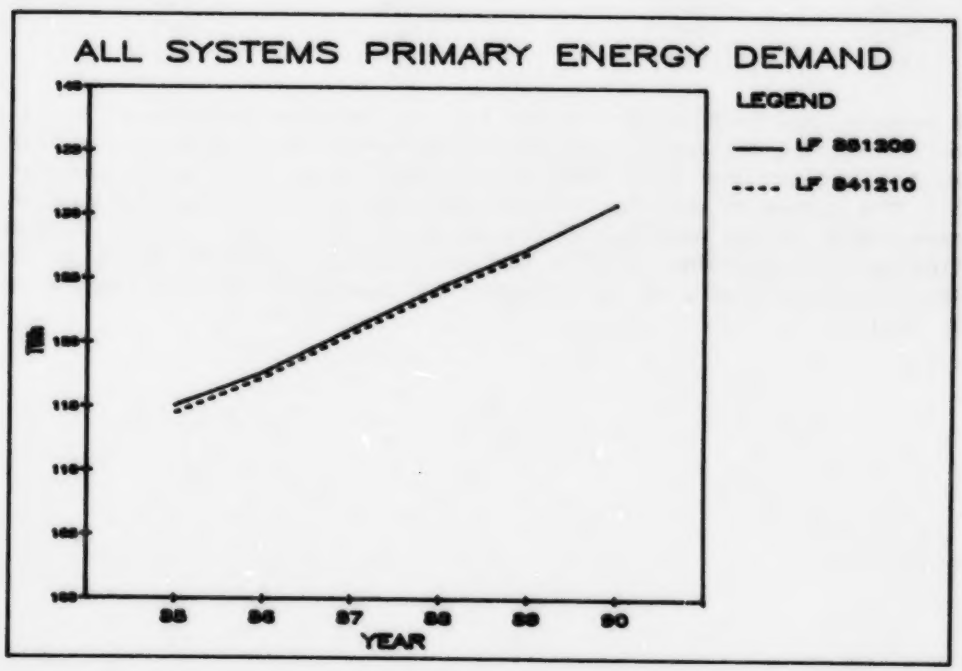
(A) Actual



All Systems Primary Energy Demand

Year	1985 Short-Term Load Forecast Av. Mw	Twh	% Inc. TWh	Diff. Twh	Forecast No. 841210 Av. Mw	Twh	% Inc. TWh
1984	12784(A)	112.3(A)*	5.8		12673	111.3*	
1985	13140	115.1	2.5	0.6	13075	114.5	2.9
1986	13438	117.7	2.3	0.4	13385	117.3	2.4
1987	13820	121.1	2.8	0.4	13783	120.7	3.0
1988	14166	124.4*	2.8	0.4	14115	124.0*	2.7
1989	14548	127.4	2.4	0.4	14498	127.0	2.4
1990	14941	130.9	2.7	1.1	14817	129.8	2.2
Avg % Inc. 1984(A)-1990			2.6				2.5

(A) Actual
*Affected by Leap Year



1.1.3 Regional Estimates

The customer forecast estimates are obtained in the spring and reflect non-coincident peaks without transmission losses. The estimates underlying this forecast are lower than the previous set (shown in Load Forecast No. 841210). The latest estimates are approximately 2% lower than last year for 1985 to 1987 and move towards a 2.5% decrease by 1989.

Sum of Customers' Loads

Average Monthly 1-Hour Non-Coincident Peaks

- MW -

	Customer Estimates for			
Year	1985 Short-Term Load Forecast	1984 Budget Load Forecast	Differences	% Change
1985	17389	17707	-318	-1.8
1986	17958	18340	-382	-2.1
1987	18542	18910	-368	-1.9
1988	19034	19454	-420	-2.2
1989	19564	20059	-495	-2.5
1990	20075	N/A	N/A	

The current customer estimates are felt to be quite reliable. Based on actual experience, the customers have corrected their own forecasts, as they realized that the projections they made in the spring of 1984 were somewhat optimistic. The optimism was due to the abnormally cold December weather and the unexpectedly strong economic performance of 1983. The current forecasts, made following mild December weather and economic performance about as expected in 1984, are less likely to be affected by transient factors than were those of last year.

1.2 Commentary

1.2.1 Considerations Affecting the 1985 Short-Term Forecast

(1) Economic Outlook

The Ontario economy was slightly stronger than expected in 1984, growing by 5.7%, due mainly to the strong sales of automotive products both domestically and abroad. Growth for 1985 is forecast (in mid 1985) to be slower because of the decrease in demand for automobiles. Growth is expected to be even slower in 1986 due to a faltering U.S. economy and the elimination of import quotas on Japanese cars, which will weaken Ontario exports to the United States. The table below indicates the Economic and Forecasts Division's Canadian and Ontario Output projections.

Economics and Forecasts Division's Outlook
Gross Product - $1971 Billion

	Canada			Ontario		
Year	1983 May	1984 May	1985 May	1983 May	1984 May	1985 May
1981	134.5	136.1	136.1	50.4	52.0	52.0
1982	128.1	130.1	130.1	47.8	49.3	49.4
1983	130.0	134.0	134.4	48.5	50.9	51.4
1984	133.9	140.0	140.7	50.0	53.5	54.4
1985	138.6	144.9	144.9	51.5	55.3	56.3
1986	142.0	148.5	147.8	52.8	56.7	57.1
1987	145.6	152.3	153.0	54.1	58.4	59.1
1988	149.2	156.9	157.5	55.5	60.2	60.9
1989	152.9	161.6	162.3	56.9	62.0	62.7
Growth % 1981-9	1.6	2.2	2.2	1.5	2.2	2.4

(2) Electricity Price Levels

Electricity prices are expected to fall in real terms (that is, in relation to inflation) over the next few years.

The effect of electricity price decreases depends both on the level of prices and on their relation to prices of alternative fuels. The two fuels with which electricity competes most directly are natural gas and fuel oil. Temporary oversupply situations in both fuels will keep their prices falling in real terms over the next few years. The result will be a temporary increase in the price advantage that natural gas has over electricity, and a temporary decrease in the advantage that electricity has over fuel oil, in most markets.

(3) Weather

The expanded Short-Term Load Forecast includes forecasts of energy and peak demand, with detail by month for each. The monthly actuals, as well as the annual actual totals, are strongly influenced by weather conditions. For the purpose of the forecast, normal weather conditions, as measured by the recorded averages, are assumed. For example, the December peak is assumed to occur on the coldest working day in December, which is assumed to have a temperature equal to the average coldest day in December.

1.2.2 Estimating the Unallocated Load

Over a medium term, growth in electricity demand is closely related to increases in the total of facilities using electricity. New users of electricity include new housing units, new stores or office buildings, and new or expanded factories. Ontario Hydro customers, the Ontario municipal electrical utilities, and our own regional offices have relatively good data on the expected total of such new activity, since they are usually contacted early in the planning process for any new additions. Therefore, the Load Forecasts Department recognizes that the customer estimates contain information that the Department does not have.

However, the Department also has information that the customers do not have. This information includes economic forecasts and skill in their interpretation; access to computer-based models for the entire system; and the skill and experience of full-time forecasters. Therefore, while the customer surveys form an important part of the data used in generating the forecast, they are only one part of the data.

To reconcile the total of the customer estimates to the load forecast, an amount must be added or subtracted. This amount is called unallocated load.

The unallocated load has been defined as "an amount, determined by judgment on the basis of model predictions and experience, which is applied to the regional estimates in order to arrive at the forecast sum of customers' loads". Its purpose is to reduce forecast error.

Sum of Customers' Loads - MW

Average Monthly 1-Hour Non-coincident Peaks

Year	Customer Survey	Unallocated Load	Load Forecast 851209
1985	17389	43	17432
1986	17958	-109	17849
1987	18542	-195	18346
1988	19034	-217	18817
1989	19564	-238	19326
1990	20075	-214	19861

The amounts of unallocated load shown in the table following are well below those in previous years. They reflect the downward adjustments made in the current customer forecasts.

Total System
Unallocated Load - December 1-Hour Peak
Megawatts

Municipal	1985	1986	1987	1988	1989	1990
Central	0	-65	-99	-107	-128	-117
Western	0	-18	-28	-30	-35	-32
Eastern	0	-12	-18	-20	-24	-22
Georgian Bay	0	-4	-6	-7	-8	-7
Northeastern	0	-2	-4	-4	-5	-4
Northwestern	0	0	0	0	0	0
Total Municipal	0	-101	-155	-167	-199	-183
Retail						
Central	0	-4	-6	-7	-8	-7
Western	40	35	35	36	38	40
Eastern	0	-6	-9	-9	-11	-10
Georgian Bay	0	-4	-7	-7	-8	-8
Northeastern	0	-3	-5	-5	-6	-6
Northwestern	0	0	0	-	0	0
Total Retail	40	18	9	8	4	10
Direct						
Central	-21	-43	-48	-48	-48	-48
Western	-35	-36	-50	-42	-44	-45
Eastern	0	0	0	0	0	0
Georgian Bay	0	0	0	0	0	0
Northeastern	-8	-10	-25	-25	-31	-34
Northwestern	0	-10	-13	12	12	12
Total Direct	-64	-98	-136	-103	-111	-115
TOTAL SYSTEM	-24	-181	-282	-262	-306	-288

1.2.3 Performance of Load Forecast No. 841210 to End of 1985

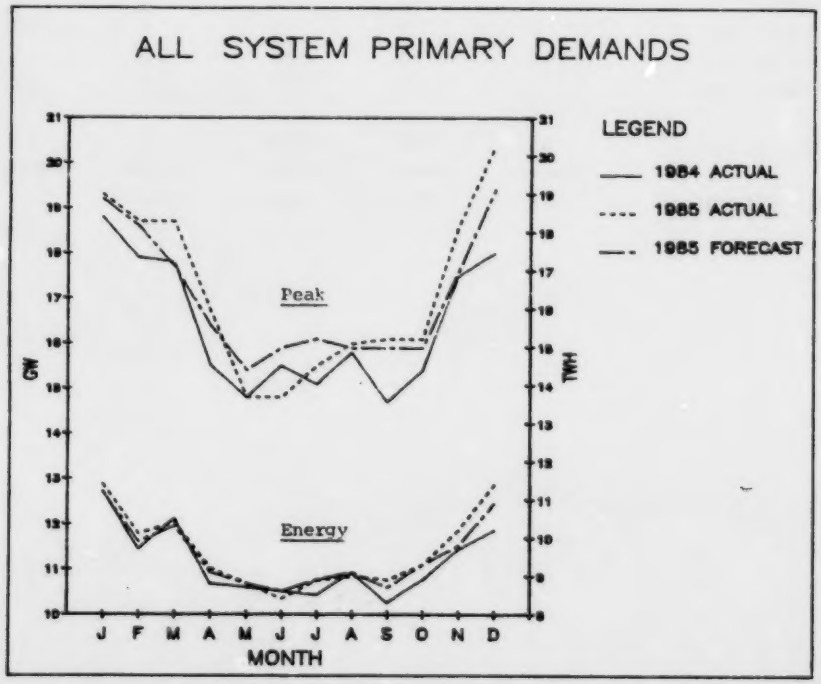
(1) Primary Demand

Monthly detail for the performance of Load Forecast No. 841210 is shown below for system 1-hour peak demand and monthly energy.

All System Primary Demands

	1-Hour Peak - GW					Energy - TWh				
	Actual					Actual				
	1984	1985	% Growth	Forecast 841210	% Dev.*	1984	1985	% Growth	Forecast 841210	% Dev.*
Jan	18.8	19.3	2.5	19.2	0.1	11.2	11.4	2.3	11.2	2.3
Feb	17.9	18.7	4.2	18.6	0.6	9.7	10.1	3.6	9.9	1.7
Mar	17.8	18.7	5.2	17.7	5.6	10.5	10.4	-1.6	10.3	0.9
Apr	15.5	16.7	7.5	16.4	1.8	8.8	9.2	4.2	9.1	0.8
May	14.8	14.8	.0	15.4	-3.8	8.7	8.8	1.2	8.8	0.5
Jun	15.5	14.8	-4.7	15.9	-7.1	8.6	8.4	-1.4	8.6	-2.4
July	15.1	15.5	2.8	16.1	-3.6	8.5	8.9	4.0	8.9	-0.4
Aug	15.8	16.0	1.4	15.9	0.8	9.1	9.0	-0.6	9.1	-0.5
Sept	14.7	16.1	9.5	15.9	1.4	8.3	8.9	7.3	8.7	2.7
Oct	15.4	16.1	4.6	15.9	1.3	8.9	9.3	4.3	9.3	0.2
Nov	17.5	18.6	6.3	17.6	5.7	9.7	10.2	5.1	9.8	3.9
Dec	18.0	20.4	13.6	19.4	5.1	10.2	11.4	11.7	10.9	4.8
Avg	16.4	17.1	4.5	17.0	0.8 Tot	112.3	116.0	3.3	114.5	1.3

*Per cent deviation from forecast.



Load Forecast No. 841210 has, in terms of energy, performed considerably better than Load Forecast No. 831212, where the deviation from forecast energy demand for a single month was as high as 9.0%. In terms of monthly peak, Load Forecast No 841210 also generally performed better than Load Forecast 831212. The high deviation in the month of March relates to the very unusual weather conditions experienced on the day of the peak, during a very heavy snowstorm with very high winds and extremely poor illumination, but with slightly higher than normal temperature. The lower-than-forecast peaks in May, July and especially June are probably due to consistently cool weather which may have affected air-conditioning load. The high peak and energy figures for November and December may be the result of the stronger-than-expected performance of the Ontario economy.

1.2.4 Capacity Interruptible Loads

In general, capacity interruptible loads are those which can be interrupted under contract provisions in exchange for which power is sold at a rate more favourable to the customer.

Capacity Interruptible Loads - East System

Sum of Non-Coincident Customers' Capacity Interruptible Load
December Monthly Peak - MW

Interruptible	1985	1986	1987	1988	1989	1990
25 Hz	11.5	16.5	16.5	16.5	16.5	16.5
60 Hz	728.0	745.3	783.0	790.5	795.1	800.7
Total	739.5	761.8	799.5	807.0	811.6	817.2
In Terms of Generation*						
25 Hertz MW	9	13	13	13	13	13
60 Hertz MW	569	582	612	618	621	626
Total	578	595	625	631	634	639

*At time of East System Peak

Currently only one customer in the West System has a capacity interruptible contract. West System's December Interruptible load in terms of generation is as follows:

1985 - 29.9 MW
1986 - 29.3 MW
1987 - 29.3 MW
1988 - 30.9 MW
1989 - 32.5 MW
1990 - 32.5 MW

1.3 Short-Term Forecasting Models

The Load Forecast Department has recently developed and tested various short-term forecasting models, some of them using relatively recently developed forecasting methodologies. The techniques most heavily used were Box-Jenkins time series analysis, State-Space models, and Econometric Regression models.

The Box-Jenkins and the State-Space models proved to be sensitive to month-to-month variations in the data due to their highly autoregressive structure. These models tend to perform better in the very short term (one to three months). For longer forecast periods, they tend to over-react to short-run variations. Econometric Regression models, on the other hand, are less sensitive to monthly deviation and they have the additional advantage of incorporating the effects of the external factors such as the state of the economy and relative energy price changes.

The results of the econometric regression models come very close to the 1984 Budget Load Forecast both in terms of the seasonal shape and the growth rates for 1986 and 1987. The level for 1985 was slightly above the 1984 forecast. The 1985 Short Term forecast was adjusted to reflect that situation.

2.0 LONG-TERM FORECAST - 1990 TO 2005

2.1 Highlights

2.1.1 Load Forecast 851209

All Systems Ontario Primary Demand

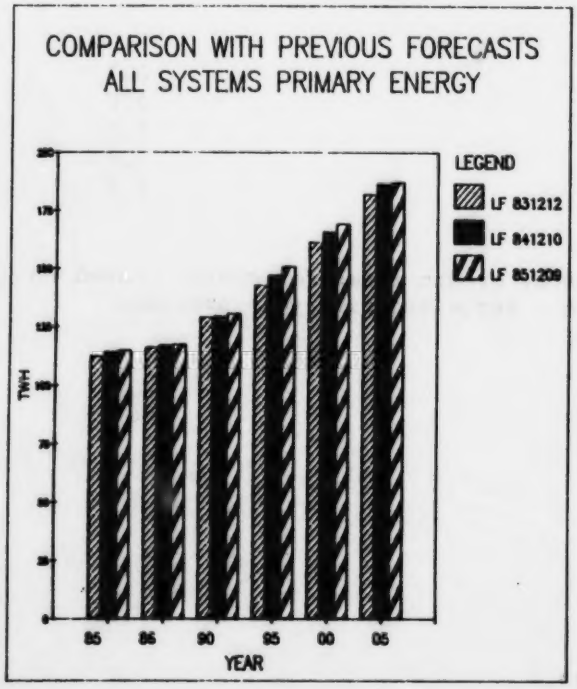
	December Peak (1-Hr., GW)	Annual Energy (Av.GW)	Annual Energy (TWh)	Growth %*(TWh)
		Year		
1984 Actual	18.0	12.8	112.3**	
1985	19.3	13.1	115.1	2.5
1986	19.7	13.4	117.7	2.3
1987	20.2	13.8	121.1	2.8
1988	20.8	14.2	124.4**	2.8
1989	21.3	14.5	127.4	2.4
1990	21.9	14.9	130.9	2.7
Long Range				
1995	25.3	17.3	151.2	2.9
2000	28.4	19.4	169.5	2.3
2005	31.4	21.4	187.6	2.0
Growth Rates				
1981-2000				2.7
1981-2005				2.6
1985-2005				2.5
1981-1990				2.8
1991-2000				2.6

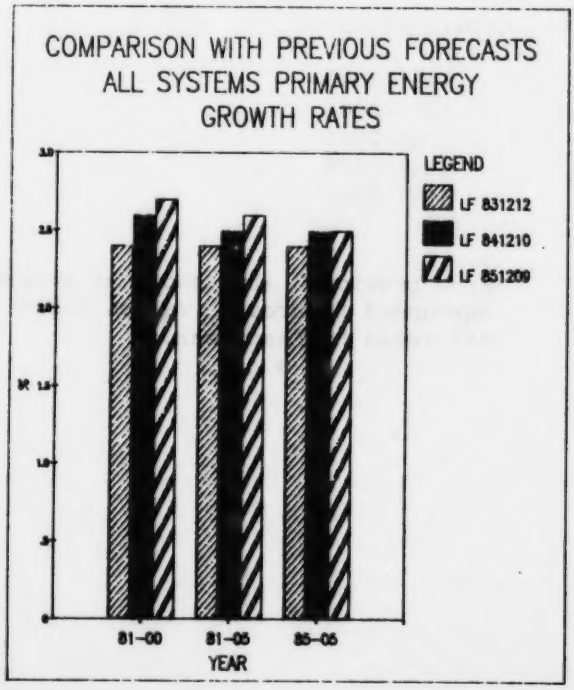
*From previous value shown at average annual growth rates for energy (based on unrounded figures). Values shown for Long Range are five-year averages.
**Affected by Leap Year.

2.1.2 Comparison with Previous Load Forecasts - Energy Demand

The level of the load forecast in terms of energy demand is slightly higher than the level of the Load Forecast 841210, mainly in 1990 and subsequent years. The difference declines after 2000.

	All Systems Primary Energy (TWh)			
	Load Forecast 831212	Load Forecast 841210	Load Forecast 851209	Difference
1985	112.6	114.5	115.1	0.6
1986	116.3	117.3	117.7	0.5
1990	129.3	129.8	130.9	1.1
1995	143.0	147.5	151.2	3.7
2000	161.6	166.3	169.5	3.2
2005	182.3	187.0	187.6	0.6
Growth Rates				
1981-2000	2.4	2.6	2.7	
1981-2005	2.4	2.5	2.6	
1985-2005	2.4	2.5	2.5	



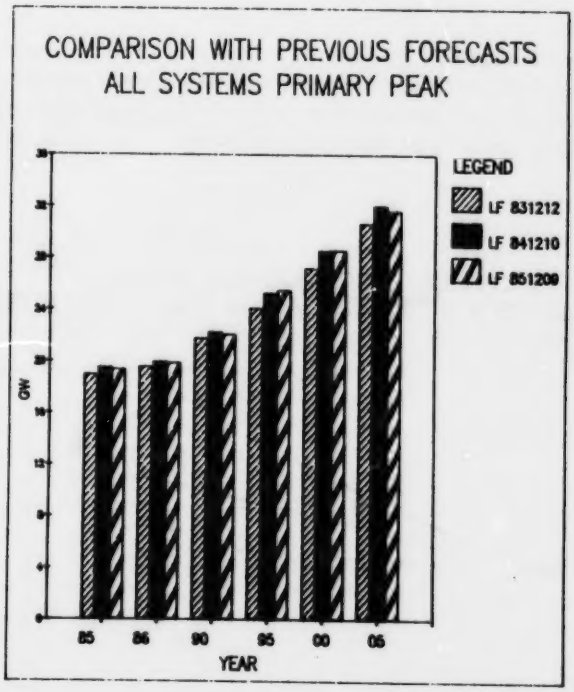


2.1.3 Comparison with Previous Load Forecasts - Peak Demand

The level of the forecast in terms of peak demand is not changed significantly from the Load Forecast 841210.

All Systems Primary Peak Demand
(20-minute peak GW, for comparison purposes only)

	Load Forecast 831212	Load Forecast 841210	Load Forecast 851209	Difference
1985	19.0	19.6	19.4	-0.1
1986	19.6	20.0	19.9	-0.2
1990	21.8	22.3	22.1	-0.2
1995	24.1	25.3	25.5	0.2
2000	27.2	28.6	28.6	.0
2005	30.7	32.1	31.7	-0.4



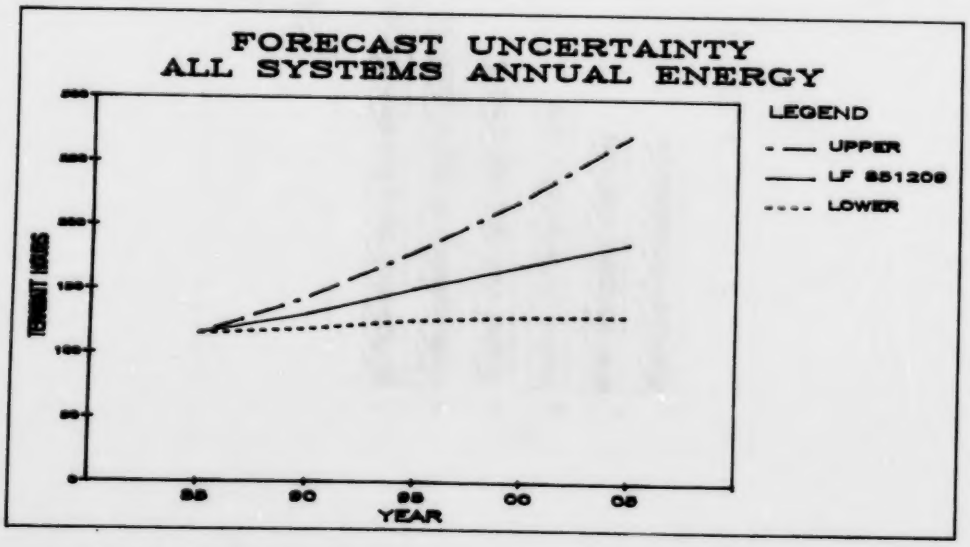
2.1.4 Forecast Uncertainty

Uncertainties as measured by estimated load forecast error remain large. Plausible limits* of the forecast are as follows:

All Systems Annual Energy
TWh

	Lower	Upper
1986	116.1	119.3
1990	119.2	143.7
1995	127.0	180.0
2000	130.0	221.2
2005	130.0	270.8
Growth Rates		
1981-2000	1.3	4.2
1981-2005	1.0	4.2
1985-2005	0.6	4.4

*Giving a 40% probability of actual demand being outside the range shown assuming that given percentage errors in either direction are equally likely. The above uncertainty is associated with the load forecasting process alone. A further discussion on risks associated with the forecast is found in 2.2.3.



2.2 Commentary

2.2.1 Methodology of the Long-Term Load Forecast

Electricity demand depends, in the long run, on a large number of factors and a complex set of interrelationships between them. The forecaster must decide which of these factors and interrelations are the most important and focus on them.

A model is an abstraction from the real world which allows such a focus. A model represents these parts of the real world which the modeller chooses as important to the task at hand, while ignoring the rest. Successful modelling, then, requires appropriate choice of which relationships are important. In the forecasting of electricity demand, several choices are possible. Not all models have a formal, documented structure.

Some forecasters use a purely mental model, based on their own experience, to generate a forecast. Such a forecast, like any forecast, depends on and reflects its assumptions.

However, in forecasting so specific a quantity as electricity demand in Ontario over as long a term as 20 years, formal models are virtually a necessity. Use of a model forces precise identification and specification of the assumptions. Different models can focus on different dimensions of electricity use. The models can then be used to examine the effects of changes in the assumptions. In addition a formal model can be arranged to produce a large amount of detail regarding components of electricity demand and these components can be examined and reconciled with known uses in the present, and with forecasts made by others. Formal models are therefore used as the practical input into the long-term load forecast, with the interpretation of results tempered by the judgment and experience of the forecaster.

For example, total electricity demand can be derived by adding up the demand created by each and every end-use of electricity. A forecast taking this approach, called an end-use forecast, requires forecasts of electricity and energy intensities in each sector and industry along with projections of activity levels. Intensities can be expected to change as technology improves in the future. In this sense the model is engineering-oriented. The forecaster's critical task in implementing an end-use model is to make assumptions and projections of detailed activity levels and electricity utilization technologies.

Another course taken in forecasting is to note that, over a long period, the relationship between overall economic activity and electricity demand has remained relatively stable, influenced by only a few variables in addition to aggregate economic activity. A simple relationship could be estimated using mathematical statistics showing electricity demand as a function of economic activity, price of electricity relative to competing fuels and relative to the general level of all prices, demographic variables, etc. This is called a single-equation econometric model.

A third way of forecasting electricity demand is to recognize that fundamental historical relationships are much more complex than can effectively be modelled by a single relationship between a few variables. This requires at least a long-term demographic-macroeconomic model linked with sectoral models for distinct sectors of the economy (residential, commercial and industrial). This model would be driven by demographics and detailed knowledge about the present structure and trends of macroeconomic relationships within sectors and industries. The outputs of such a complex model consist both of total energy demand in the future and the market shares of electricity and other fuels. This approach is called multi-equation econometric modelling.

The Load Forecasts Department has maintained separate models taking each of the above three approaches. The Ontario Hydro end-use model was originally obtained from the Ministry of Energy. Since that time, both the Ministry and Ontario Hydro have restructured and updated their models independently.

Ontario Hydro's single-equation econometric model is the IDFN model which is an update and respecification of the previous single-equation models. The multiple-equation econometric model is the EDEM model, developed and maintained by the Load Forecasts Department.

The use of several models allows the forecaster to take into account more of the available information about the past in order to assess the future. All the models have some historical data in common and some that is not common, and each also requires assumptions about a different set of explanatory variables. The forecaster can therefore discover whether the forecasts of electricity demand will differ significantly using the different methodologies. Any differences between the forecasts are instructive, since they can be traced directly to the model or to the underlying assumptions. This gives the forecaster the ability to ensure consistency.

Similar considerations apply to short-term forecasting also. However, in the short term, the variability of weather affects electricity demand more than the set of variables relating to the level of economic activity, fuel prices, or demographics. Demand in the short term is also heavily determined by the existing stock of energy-using capital equipment, which tends to change only very slowly. Therefore it is more useful to view demand in the short term as primarily related to demand in the recent past, and then to apply a knowledge of external changes and judgment to round out the energy demand picture.

This long-term forecast is consistent with the short-term forecast approved in August of 1985.

2.2.2 Discussion of Major Assumptions

A forecast by any of these methodologies requires assumptions about some set of variables which represents the important influences on electricity demand The number of such variables can range from three for the most simple single-equation model to several hundred for the end-use model. The basic assumptions are common to all three models, but other key assumptions are made independently. The resulting forecasts therefore maintain a degree of independence, and provide a load forecaster with information both on the forecast and on the effect of different approaches.

The most important two factors in any model (computerized or mental) of the demand for electricity in the long run are the projections of the general level of economic activity and of the price of electricity relative to other fuels. These factors can be incorporated into the models and the forecasting procedure in any of several ways. Because these factors are so central, each of the models has been run using similar assumptions for them. This approach allows the model results to reflect important differences in other kinds of assumptions, and allows the forecaster to understand the sources of the differences.

Major Assumptions

Economic growth will follow the path outlined in the most-likely forecast of the Economics and Forecasts Division's Economic Outlook, Annual Review 1985. This outlook predicts real economic growth in Ontario averaging about 2.9 per cent per year over the twenty years from 1981 to 2000. Following trends in population growth, the trend rate of economic growth will decline after the year 2000.

Ontario population in the year 2000 will be just over 10 million.

Ontario labour force in the year 2000 will be 5.7 million, at an average participation rate of just under 70 per cent. The unemployment rate will decline slowly from present levels to 6% by the year 2001.

The price of electricity will decline slightly in real terms from the mid-90s to the end of the period. It will fall relative to oil and gas prices over the same period.

There will be no major disruptions of energy supplies.

The rate of technical progress will recover from its recent negative values to a level below the average of the 1960s, but above the average of the last decade.

The stability of social, economic, and financial institutions will be retained. No international financial crisis will seriously affect the Canadian financial system.

(1) Economic Growth

The current (1985) Annual Economic Outlook forecasts a level of Gross Domestic Product (GDP) in Ontario of $88,793 (in millions of 1971 dollars) in 2000, an increase of 5.6 per cent over the $84,066 forecast in the 1984 Annual Economic Outlook. This increase in the level of economic activity corresponds to an increase of about 0.3 per cent per year in the average annual growth rate from 1981 to 2000. Most of the increased growth occurs in the years from 1984-87, reflecting Ontario's strong industrial performance and a gain in population at the expense of the Western provinces. The inflation outlook is also noticeably improved, as a result of the assumption that tight monetary policies will be continued into the 1990s.

Economic Outlook

	Ontario Real GDP ($1971\$ \times 10^6$)		Ontario Consumer Price Index (1981=100)	
	Fall 1985	Fall 1984	Fall 1985	Fall 1984
1985	58,115	55,293	128.7	132.0
1990	67,370	64,094	170.8	189.7
1995	78,480	74,302	228.6	266.0
2000	88,793	84,066	298.7	356.0
2005	99,000	91,909	399.7	499.3

This revised forecast has been used as the basis for the EDEM, end-use, and IDFN models. As would be expected, given the higher level of economic activity, they have generally forecasted loads higher than those of the Planning Load Forecast of December 1984.

(2) Energy Prices

Electricity price assumptions in this forecast roughly follow those of the reference scenario in the Long-Range Financial Projection, 1985-2005. Prices input to the forecasting models were adjusted in recognition of the sensitivity of electricity sales to electricity prices. The adjustment ensures that low prices do not induce such rapid sales growth that the cost of meeting the increased load forces an increase in prices that, in turn, chokes off the load. Even after the adjustment, forecast electricity prices are quite similar to those in the Long-Range Financial Plan.

The other important variable common to all the models is electricity prices relative to those of other fuels. Relative prices primarily determine consumers' fuel choice, rather than rates of use of existing equipment. In some models, the effect of conservation or usage of energy in response to overall energy price levels is also represented.

Electricity prices are still forecast to fall significantly in real terms until the mid 1990s as fewer new plants are brought into service. After that the rate of decrease of real electricity prices will be reduced until by the end of the century they start to increase in real terms.

Deregulation of the domestic oil market is expected to continue. Domestic oil prices are forecast to escalate faster than the rate of increase of world oil prices due to a projected depreciation of the Canadian dollar against its U.S. counterpart. By the year 2000, the real ($1984) world oil price is expected to be about US$30 per barrel. This moderate rise is expected to start in the 1990s.

In the next few years, the natural gas market is expected to be fully deregulated in Canada and the continued supply/demand balance is projected to have a direct impact on domestic prices. In the 1990s, natural gas prices are expected to be under upward pressure due to a decline of conventional deliverability and rising production costs for new additions, both in the United States and Canada, and because of increased U.S. demand for Canadian gas. The natural gas/crude oil price ratio (on a Btu-equivalent basis) is expected to rise from the current 60 per cent to about 62 per cent by 1990 and 70 per cent by 2000, somewhat below the 75 per cent ratio assumed last year for the year 2000. The long-term increase in the price of natural gas provides a further relative price advantage for electricity.

2.2.3 Risks to the Forecast

The principal risks identified for the forecast include the rate of real economic growth, the Ontario Hydro rate levels and structure, the prices of other fuels, and the effect of Ontario Hydro's marketing program.

In the forecast as reported in this document, some of the risk associated with these uncertainties is addressed by the use of three alternative scenarios (in addition to the most likely). Each scenario shows the impact on system demand of a set of coordinated alternative assumptions about economic growth (including population growth) and energy prices. The scenarios allow some explicit consideration of the outcomes possible given underlying conditions different from those envisioned in the central forecast. The forecasts of electricity demand made for each of these scenarios indicate a wide range of risk arising from the economic outlook alone.

Previous forecasts have identified the sensitivity of the forecast to assumptions of electricity prices. Because of this sensitivity, the effect of electricity prices on demand and effect of demand on electricity prices have both been taken into account during the forecast process. This ensures that assumptions about electricity demand and prices are not inconsistent with each other.

The sensitivity of the load forecast to the prices of competing fuels is similar to that for changes in the price of electricity, and in fact it is relative prices that are of primary importance.

Some impact of the Ontario Hydro marketing program is assumed for forecasting purposes. A much better or worse performance relative to marketing targets would affect the rate of load growth significantly, especially over the next ten years. However, the risk in this area is somewhat controllable since the nature and extent of Ontario Hydro's marketing efforts can be modified fairly quickly.

Given the sources of external uncertainty, in addition to the uncertainty attached to the load forecasting process itself, the necessity for care in the use of the load forecast cannot be overstressed. The load forecast cannot be used as only a single number; the sources and consequent ranges of forecast error must be considered as well.

For this reason, the band of error associated with the forecast is as important as its central tendency.

2.3 Results of Forecasting Models

2.3.1 Economic and Demographic Energy Model--EDEM

(a) Demographics

The assumptions which determine total population include fertility rates, migration, and life tables. The total number of households and the labour force source population (the total number of people of working age) are determined by the year-by-year age distribution of the population. The number of households is an important determinant of energy use in the model and the source population is an important determinant of the labour force. The other determinant of the labour force is the participation rate. Age-sex specific participation rates are assumptions in the model, but they can be influenced in the model by the demand for labour.

(b) Economic Growth

The key economic assumptions in EDEM are the rate of technical progress, the unemployment rates, and the date at which the system reaches the long-term growth path. Long-term growth is determined by the rate of growth of capital, labour, and the rate of technical progress. EDEM predicts long-term growth to be a fraction below full potential, thus allowing for excess capacity.

The economic growth produced by EDEM is tuned to the Annual Economic Outlook produced by the Economics and Forecasts Division.

The long-run unemployment rate is assumed to be 6 per cent. This is basically a judgment on the political acceptability of unemployment in the long term, and not a particular assumption on the effect of economic growth on the labour force.

In the current forecast, the long-term rate of technical progress (rtp) is around 1% per year, which is consistent with the Economic Outlook. After a relatively high level in 1983 of 3.07%, due to the strong economic recovery, rtp is projected to trend downward from its 1983 level to its long-run level, reaching it by 1996. This forecast implies a significant turnaround in the growth of total factor productivity, which has been falling over much of the last decade, and as yet has not shown much sign of recovery not related to cyclical factors. However, as computer technology becomes even more pervasive and makes production in general more efficient, and given that energy prices are likely to be somewhat more stable over the medium term than they have been recently, it is reasonable to expect a return to productivity growth. Without such a turnaround, it is difficult to predict sustained economic growth in Canada for the next two decades.

(c) EDEM Results - Base Case

Results are shown below.

Year	Residential TWh	Commercial TWh	Industrial TWh	Adjustments** TWh	Ontario Primary Electric Energy Twh
1985	31.7	39.7	42.0	1.7	115.1
1990	35.8	45.2	47.5	2.4	130.9
1995	40.8	52.4	54.9	3.1	151.2
2000	43.3	59.9	62.7	3.6	169.5
2005	44.9	67.7	70.7	4.3	187.6
Growth Rates*					
1981-2000	2.3	3.1	2.5		2.7
1981-2005	2.0	2.9	2.5		2.6
1986-2005	1.8	2.7	2.6		2.5

*Average annual per cent change.
**Ontario Hydro losses less Ontario electricity not sold by Hydro, including co-generation and purchases from non-Hydro generators.

Changes in electricity's share of the residential sector's energy consumption occur both because of changes in appliance stocks and changes in the utilization rates. The model keeps track of utilization and saturation of appliances during the forecast period.

The net result is that total residential electricity use is forecast to increase at an average annual rate of 2.3 per cent over the period from 1980 to 2000, slightly less than the growth rate of total primary energy. In fact, the rate of growth of residential demand follows a downward trend through the entire 1990s due to the slowing down of population growth. This trend continues after the year 2000 with low growth in the residential sector continually dragging down the growth of total primary energy.

The commercial sector has faster growth rates of both total energy and electricity than the residential sector, averaging 2.3 per cent a year for total energy and 2.0 per cent for electricity. Electricity's share of the commercial market increases from 28 per cent in 1980 to almost 33 per cent by the year 2000.

In the industrial sector (manufacturing and mining), electricity growth averages about 2.5 per cent a year between 1980 and 2000, while total energy grows by an average of only 1.7 per cent a year. Electricity's share of this market, therefore, increases from 18.7 per cent in 1980 to 22.0 per cent in 2000. This is a slightly greater relative increase in market share for electricity than is projected for the commercial sector.

2.3.2 The IDFN Model Results

IDFN is a single-equation regression model, which assumes a simple relationship between past demand and relatively few explanatory variables.

IDFN Results
Ontario Hydro Primary Energy Demand

Year	Primary Electric Energy TWh
1985	116.1
1990	136.4
1995	163.2
2000	187.9
2005	210.5
Growth Rates*	
1981-2000	3.3
1981-2005	3.1

*Average annual percent change.

2.3.3 End Use Forecasting Model Results

(a) Concepts

The end-use model builds up aggregate demand by adding up a large number of uses of electricity. For each of these end uses electricity consumption is determined by activity level and energy input (from which electricity consumption is derived according to its market share) per unit of activity. Consequently forecasts are required both for the end use activity levels and for the energy consumption per unit activity.

This is an arduous task since total end uses number approximately two hundred and each must be analyzed in detail. Further, data at this level of disaggregation is very sparse and crude estimates have to be made. Further still, end uses can typically always be broken down further, e.g., electric space heating can be broken down into components relating to furnace efficiency and losses which are a function of the different kinds of insulation. Data may exist on expected efficiency improvements relating to these disaggregates which then have to be aggregated for use in the end-use model. Given these types of constraints, attempts have been made however to ensure consistency between the end-use and econometric models.

There are several advantages to this approach. It focuses attention on the level of efficiency of energy use in general and electricity use in particular. Furthermore, it is worthwhile to carry out cross-checking at a detailed level between components of the aggregate econometric models and the disaggregate end-use model.

(b) Demographic and Housing Projections

The main features of the mode of housing of the population in Ontario over the forecast horizon, consistent with the most likely scenario of population growth, are shown below.

Ontario Housing Stock Characteristics: 1980-2005

Year	Housing Stock (000)	Single Det. (%)	Semi (%)	Row (%)	Apt. (%)
1980	3042	58	10	5	27
1985	3291	57	10	6	27
1990	3643	57	9	6	28
1995	3940	57	9	6	28
2000	4142	56	9	6	29
2005	4292	56	9	6	29

Housing stock totals shown here include an average vacancy rate of 2.0% across the forecast period.

(c) Commercial Square Footage and Disaggregate Industry Output Forecasts

The aggregate economic forecasts in the end-use model are consistent with the forecasts of the Long-Term Economic Outlook (September 1985), and of Retail Energy Price Trends (July 1985). Specific assumptions for growth in commercial building stock (eg, offices, hotels and restaurants, etc) and in production levels for given industries (eg, pulp and paper, industrial chemicals,

cement, etc) have been developed. Additional information has been incorporated into the appropriate market segments relating to energy efficiency improvements as this information has become available.

Off-oil conversions are assumed to continue during the forecast period, although at a slower rate, in response to price incentives and to governmental financial incentives. Both these incentives have been reduced recently. The underlying methodology for determining the market shares of the off-oil converters is based on the notion of relative life cycle costs. Thus if the capital costs of the conversion options are negligible or else identical, customer decisions will be based solely on the relative fuel costs (and related issues of security of supply, cleanliness, safety etc.), no matter what the discount rate. When capital costs do differ, converter market shares depend on relative life cycle costs, which are computed using operating and other costs for all competing technologies in a given end-use or industrial process.

This most likely end-use forecast contains the effects of existing government and utility programs. It therefore includes the electrification of GO-Train urban transit, beginning in 1988, as indicated in the BILD program; and the addition of 50 MW of cogeneration associated with the municipal treatment of waste by the year 2000.

Electricity demand increases in all sectors over the forecast period. The increase in demand in the residential and commercial sector reflects the growth in building stock, the increase in electric space heating, the growing penetration of heat pumps, and in the residential sector, the higher penetration of appliances. Growth is moderated by continued conservation measures and improved energy efficiency. In the industrial sector, electricity growth is the product of a buoyant outlook for industrial goods coupled with some conversions to electrotechnologies in the nineties.

Results are shown in the following table.

Ontario Electricity Demand, End-Use Model, 1985-2005

Year	Residential TWh	Commercial TWh	Industrial TWh	Transportation TWh	Adjustments* TWh	Primary Energy TWh
1985	36.6	32.3	39.7	0.4	2.8	113.6
1990	42.6	37.6	44.3	0.4	4.1	130.6
1995	48.0	43.1	51.2	0.7	6.1	150.8
2000	52.4	48.1	57.8	1.2	8.1	169.2
2005	54.9	52.8	64.7	1.5	9.2	184.9
Growth Rates**						
1981-2000	2.6	2.7	2.1	3.0	-	2.7
1981-2005	2.3	2.5	2.1	3.3	-	2.5

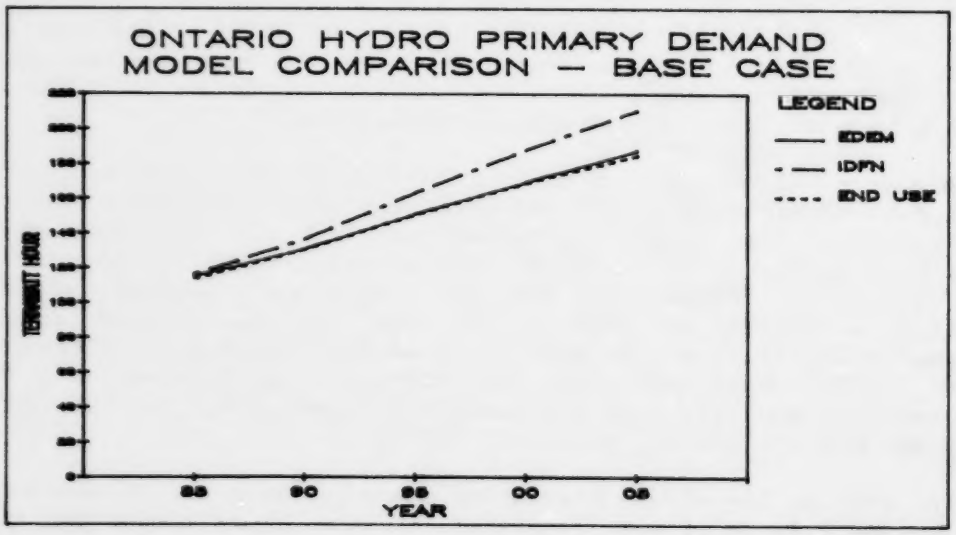
* Ontario Hydro losses less Ontario electricity not sold by Hydro, including co-generation and purchases from non-Hydro generators.
**Average Annual per cent change.

Summary of Forecasts

Ontario Hydro Primary Energy Demand
Model Comparison
(TWh)

Year	EDEM	IDFN	End-Use
1985	115.1	116.1	113.6
1990	130.9	136.4	130.6
1995	151.2	163.2	150.8
2000	169.5	187.9	169.2
2005	187.6	210.5	184.9
Growth Rates*			
1981-2000	2.7	3.3	2.7
1981-2005	2.6	3.1	2.5

*Average annual percent change



2.3.4 Comparison and Reconciliation of Model Results

It is expected that the load forecasts produced by each of the three models used will be related to the others in a predictable way.

The End-Use Model can be expected to produce the lowest demand forecast, because it focuses on the existing uses of electricity which are becoming more efficient, and its forecast does not provide for future uses which are not specifically foreseen. It does predict future uses which are now foreseen, but these may well not be sufficient to represent actual future uses. Further, it requires explicit identification of future substitution possibilities and these tend to be under predicted.

The single equation model can be expected to produce the highest forecast. Its estimates are based on the relationship between electricity use and economic output as observed over the last twenty to twenty-five years without explicitly modelling the changes in the pattern of that relationship which have emerged in the last ten years. Careful examination of the results shows that there have been some significant changes in trends which are typically not picked up by single equation models. This rather simple approach probably does not capture the entire change, which would generally lower electricity demand. The result is that the single equation results should be treated as likely to be higher than the actual demand.

The EDEM model's biases are less immediately obvious. Its assumptions can accommodate the changes in the mode of energy usage in recent years, while at the same time its behavioural components implicitly model the past history of the emergence of new technology and new uses of electricity and energy. However, caution must still be exercised in interpretation of the EDEM model's output, in light of the assumptions used in it. It, too, may have some tendency to overestimate demand due to its inability to capture fully the conservation effects of large technological breakthroughs.

For this year's forecast, each of the three models was tuned to figures for demand and economic results of 1985, using the 1985 forecasts as if they were already history. Then a baseline run was made with each model to simulate the most-likely forecast from the October 1985 Annual Economic Outlook. This produced the central forecast for each model which were compared. After this comparison a decision was made as to what the load forecast should be. Adjustments were then made to each of the models in order to reflect required changes. The models now track the official load forecast so that the disaggregation available from the models, as required by certain users, are consistent with the official aggregate forecast.

Finally, each of the three alternative scenarios from the Economic Outlook (See Section 2.4, next) was translated into the inputs needed for the EDEM model, and runs were made which simulate each scenario. Past experience has shown that the EDEM model is the best tool to use to develop aggregative scenarios. The end-use model would be the best tool to use to develop disaggregate technology-based scenarios. However, these are not produced at this time.

2.4 Results for Alternative Scenarios

The Economics and Forecasts Division prepares alternative forecasts of the economic environment in addition to the most-likely forecast on which the recommended load forecast is based. These alternatives are covered by three scenarios, each consisting of a consistent set of assumptions around which a corresponding forecast is prepared. These scenarios are the Better Growth, Worse Growth and Higher Inflation scenarios.

The Economics and Forecasts Division estimates that only 70 per cent of the probability of the outcomes is contained within the range of its alternative scenarios. The economic performance could be better or worse than is depicted in the alternative scenarios.

It is important to recognize that this uncertainty is as much a part of the load forecast as is the forecast itself. The load forecast represents the most-likely of a wide range of possible forecasts, and planners must take into account the high degree of uncertainty attached to any particular outcome.

The wide range of forecasts produced by the model under the three alternative scenarios gives some idea of the range of uncertainty of the forecast. Each of these forecasts assumes that there is no structural change in the way that energy and electricity is used. The extent to which structural change actually occurs will therefore be an important determinant of the degree to which this forecasted outcome is realized.

The EDEM model, as a macroeconomic model, is best suited to evaluation of alternative macroeconomic scenarios. The results are as follows.

(1) EDEM Results - Alternative Scenarios

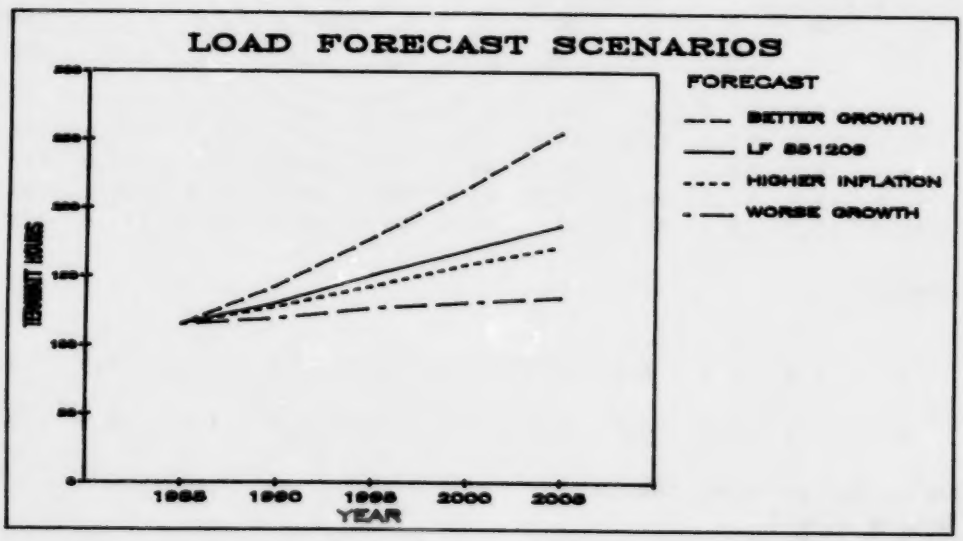
	Residential TWh			Commercial TWh			Industrial TWh			Total Primary Energy TWh		
	BG	ST	WG	BG	ST	WG	BG	ST	WG	BG	ST	WG
1985	31.7	31.7	31.7	39.7	39.7	39.7	42.0	42.0	42.0	115.1	115.1	115.1
1990	39.5	36.8	33.0	49.2	44.9	41.5	51.6	44.3	43.2	143.0	128.3	119.6
1995	48.9	38.7	34.9	61.3	49.5	44.0	63.8	52.0	45.3	180.0	143.0	126.4
2000	55.2	39.9	34.5	74.8	56.7	46.8	78.9	58.9	47.6	214.2	158.8	131.3
2005	60.8	40.7	33.3	91.3	63.3	49.5	96.7	64.5	49.8	255.5	172.3	135.0
Growth Rates*												
1981-2000	3.6	1.9	1.1	4.4	2.9	1.8	3.7	2.1	1.0	3.9	2.4	1.4
1981-2005	3.3	1.6	0.7	4.3	2.7	1.7	3.8	2.0	1.0	3.9	2.2	1.2

*Average annual per cent change
BG - Better Growth
ST - Higher Inflation
WG - Worse Growth

To model the economic assumptions of the Alternative Scenarios, the rate of technical progress was changed from the base case value so that the model would track the GDP growth projected for each scenario. The long-run rate of unemployment was changed in similar fashion. In addition, revised estimates of oil and natural gas prices were provided. Electricity prices, however, were not changed from the base case. The results should therefore be integrated in light of the likely effect that the forecast loads would have on electricity prices.

The competitive position of electricity vis-a-vis other fuels improves in the upper growth case compared to the base case except for the 1996-2000 period where the rate of increase in oil and gas prices is less in the upper growth case than in the base case. That, combined with rapid and sustained economic growth, brings the rate of total primary energy growth to 3.9 per cent a year from 1981 to 2000. Primary energy demand reaches a level of 214 TWh (24.4 Av.GW) by the year 2000.

In the lower growth case there are large decreases in the relative prices of oil and natural gas until the mid-1990s. In the late 1990s relative oil and gas prices are roughly neutral compared to the base case. The total effect is to cut 38 TWh (4.4 Av.GW) from primary energy demand by the year 2000 and to reduce the growth rate of primary energy from an average 2.7 per cent (1981-2000) in the base case to an average 1.4 per cent. In the higher inflation case the projected prices of competing energy sources are more favourable to electricity sales, compared to the base case. However, economic growth is lower. The result is that electricity growth averages 2.4 per cent a year from 1981 to 2000 and primary energy reaches 159 Twh (18.1 Av.GW) by 2000, a reduction of 11 Twh (1.2 Av.GW) from the base case.



2.5 Impact of Ontario Hydro's Marketing Activities

Ontario Hydro's Marketing Branch has now been active under its present name and structure for more than two years. It has developed a comprehensive set of programs and specific plans. Marketing in the Ontario Hydro context is now more clearly defined, and in this context a larger goal is sought than that of merely increasing sales. Rather, the intent of the marketing program is to improve the alignment of the customer demand with the capacity of Ontario Hydro to satisfy demand.

This is to be accomplished by increasing the awareness of the decision-makers in the energy-use market about the viability of the electric option. Market analysis, staff training, technical support (for staff of Hydro's customers and end-use decision makers), direct sales promotion and advertising, and financial incentives are provided for under the specific programs. Customers contemplating replacement or renovation of existing fixed energy-using capital equipment and customers installing new plant will therefore be more inclined to choose the electric option.

Although the general thrust of the marketing programs in the early years of the forecast is to increase load, some customers might reduce consumption under continuing programs to improve customer-side energy management.

The existing stock of energy-consuming capital equipment can shift only slowly over time due to the longevity of such equipment. Marketing activities tend to bring forward electricity demand where old plant is replaced earlier than it would have been otherwise, and as well tend to capture more of the replacement and new plant market for electricity (versus other energy sources) than would otherwise be obtained.

It is unfortunately impossible to link and quantify today's marketing activities with any specific increment in demand in future, due to the unknown structure of the lagged influenced of Ontario Hydro's marketing.

It is expected that demand stimulation programs will give way to load management and strategic conservation in the early 1990s, in keeping with the theme of best matching customer needs with system abilities. Nevertheless, due to the life of extra capital equipment installed during the early years of the forecast, the net effect of marketing is to increase the total forecast load in every year of this forecast.

One channel of influence through which the forecast reflects this increase is the incorporation of the estimates by regional marketing managers and by customers into the load forecast through the regional estimates system. This influence cannot, however, be isolated or quantified. Another influence is the increases in load which have already occurred through marketing activities, and which therefore are incorporated into the historical data on which the forecast models are based.

TABLE A

COMPARISON OF TOTAL SYSTEM DEMANDS WITH EARLIER FORECASTS
ONTARIO PRIMARY DEMAND

20-MINUTE WINTER PEAK DEMAND - Megawatts

Winter	Actual	FORECAST MADE IN						
		1979	1980	1981	1982	1983	1984	1985
1979/80	16365	17157						
1980/81	17189	17646	17476					
1981/82	18124	18346	18188	17461				
1982/83	17578	19297	19051	18012	17953			
1983/84	18896	20304	19955	18768	18650	18227		
1984/85	19390	21354	20724	19449	19370	18819	19438	
1985/86	20668	22412	21464	20204	20042	19404	19915	19846
1986/87		23523	22242	20943	20730	20035	20531	20386
1987/88		24688	23060	21723	21465	20603	21100	20917
1988/89		25911	23920	22546	22214	21121	21721	21510
1989/90		27193	24826	23421	22987	21636	22198	22116
1990/91		28411	25806	24336	23783	22018	22895	22683
1991/92		29683	26601	25188	24577	22409	23523	23312
1992/93		31013	27410	26065	25385	22851	24116	24029
1993/94		32402	28242	26917	26172	23352	24689	24775
1994/95		33852	29087	27690	26979	23927	25233	25545

ANNUAL ENERGY DEMAND - Terawatt hours

Year	Actual	FORECAST MADE IN						
		1979	1980	1981	1982	1983	1984	1985
1979	98.1	98.1						
1980	100.2	101.9	102.2					
1981	101.7	105.1	105.5	102.4				
1982	100.8	109.8	110.3	105.7	104.8			
1983	106.1	115.3	115.5	109.1	108.1	103.3		
1984	112.3	121.3	120.5	113.2	112.5	109.0	111.3	
1985	116.0	127.0	124.5	117.4	116.3	112.6	114.5	115.1
1986		133.2	129.1	121.9	120.1	116.3	117.2	117.7
1987		139.8	133.7	126.4	124.4	119.9	120.7	121.1
1988		147.1	138.9	131.5	129.0	123.5	124.0	124.4
1989		154.0	142.8	136.3	133.2	126.2	127.0	127.4
1990		160.9	148.9	141.6	137.8	129.3	129.8	130.9
1991		168.1	153.5	146.6	142.4	131.6	133.9	134.2
1992		176.1	158.6	152.1	147.9	134.3	137.5	138.0
1993		183.4	163.4	156.7	152.1	136.6	141.0	142.2
1994		191.6	167.9	161.2	156.8	139.6	144.4	146.6

TABLE A1

COMPARISON OF 20- MINUTE WINTER PEAK DEMANDS WITH EARLIER FORECASTS

EAST SYSTEM - ONTARIO PRIMARY DEMAND

Megawatts

Winter	Actual	FORECAST MADE IN						
		1979	1980	1981	1982	1983	1984	1985
1979/80	15536	16280						
1980/81	16440	16769	16641					
1981/82	17335	17439	17324	16605				
1982/83	16793	18355	18161	17130	17103			
1983/84	18009	19318	19033	17869	17756	17404		
1984/85	18525	20333	19738	18507	18412	17975	18553	
1985/86	19711	21349	20452	19205	19056	18537	18989	18905
1986/87		22417	21192	19911	19722	19112	19572	19445
1987/88		23538	21970	20653	20423	19661	20127	19953
1988/89		24715	22789	21432	21133	20155	20738	20506
1989/90		25950	23651	22261	21868	20646	21194	21096
1990/91		27118	24588	23126	22623	21011	21860	21637
1991/92		28338	25346	23936	23370	21384	22459	22237
1992/93		29614	26117	24769	24138	21806	23025	22921
1993/94		30947	26910	25578	24886	22284	23572	23632
1994/95		32339	27715	26312	25653	22833	24091	24367

WEST SYSTEM - ONTARIO PRIMARY DEMAND

Megawatts

Winter	Actual	FORECAST MADE IN						
		1979	1980	1981	1982	1983	1984	1985
1979/80	860	877						
1980/81	875	899	872					
1981/82	878	907	888	891				
1982/83	870	942	914	918	895			
1983/84	932	986	947	934	943	900		
1984/85	961	1021	1012	980	1002	922	955	
1985/86	1012	1063	1039	1035	1032	948	998	995
1986/87		1106	1078	1071	1056	1008	1033	995
1987/88		1150	1119	1111	1092	1030	1048	1019
1988/89		1196	1162	1156	1133	1056	1060	1062
1989/90		1243	1206	1206	1172	1082	1083	1078
1990/91		1293	1252	1250	1215	1101	1117	1106
1991/92		1345	1290	1293	1260	1120	1148	1136
1992/93		1399	1328	1338	1301	1142	1177	1171
1993/94		1455	1368	1382	1341	1167	1205	1208
1994/95		1513	1409	1421	1382	1196	1232	1245

TABLE B

COMPARISON OF 1985 AND 1984 FORECASTS

Average Monthly 1-Hour Peak - Megawatts

1985 Forecast (#851209)

	Regional Estimates	Unallocated Load	Sum of Customer Loads	Net Diversity & Loss	Primary Demand
1985	17389	43	17432	-467	16965
1986	17958	-109	17849	-479	17370
1987	18541	-195	18346	-491	17855
1988	19034	-217	18817	-505	18312
1989	19564	-238	19326	-518	18808

1984 Forecast (#841210)

1985	17707	-113	17594	-597	16997
1986	18340	-300	18040	-612	17428
1987	18910	-324	18586	-631	17955
1988	19454	-367	19087	-647	18440
1989	20058	-428	19630	-663	18967

Difference between Forecasts (1985 Forecast - 1984 Forecast)

1985	-318	156	-162	130	-32
1986	-382	191	-191	133	-58
1987	-369	129	-240	140	-100
1988	-420	150	-270	142	-128
1989	-494	190	-304	145	-159

TABLE C

LOAD FORECAST REPORT NO 851209
ONTARIO PRIMARY DEMANDS - TOTAL SYSTEMS

Year	20 Min. Annual Peak Mw	Annual Energy Mwh	Annual Energy Av. Mw	Load Factor %
1944	1,708.5	9,862,565.7	1,122.8	65.7
1945	1,771.3	10,334,944.6	1,179.8	66.6
1946	2,036.1	10,575,379.3	1,207.2	59.3
1947	2,262.2	12,495,821.2	1,426.5	63.1
1948	2,393.0	12,991,064.4	1,478.9	61.8
1949	2,443.7	13,511,035.9	1,542.4	63.1
1950	2,753.1	15,175,583.7	1,732.4	62.9
1951	3,063.1	17,241,303.9	1,968.1	64.3
1952	3,247.7	18,401,371.7	2,094.8	64.5
1953	3,442.8	19,590,139.1	2,236.3	65.0
1954	3,655.7	20,471,343.9	2,336.8	63.9
1955	4,183.2	22,877,271.2	2,611.4	62.4
1956	4,468.5	25,135,134.1	2,861.4	64.0
1957	4,737.6	27,002,762.0	3,082.4	65.1
1958	5,093.1	27,979,394.9	3,193.8	62.7
1959	5,510.6	31,143,172.8	3,555.0	64.5
1960	5,699.8	32,319,968.2	3,679.4	64.6
1961	5,902.9	33,569,282.4	3,831.9	64.9
1962	6,247.0	35,488,962.2	4,051.1	64.9
1963	6,750.6	37,288,964.1	4,256.5	63.1
1964	7,163.9	40,305,468.3	4,588.5	64.1
1965	7,818.4	43,511,759.8	4,967.1	63.5
1966	8,565.6	48,054,384.4	5,485.7	64.0
1967	8,963.8	51,355,505.0	5,862.5	65.4
1968	9,994.4	55,788,374.7	6,351.1	63.5
1969	10,555.4	59,424,443.4	6,783.6	64.3
1970	11,288.7	64,287,605.7	7,338.8	65.0
1971	11,534.5	68,132,582.0	7,777.7	67.4
1972	12,738.8	73,495,941.4	8,367.2	65.7
1973	13,605.4	78,162,478.1	8,922.6	65.6
1974	13,538.1	82,695,005.7	9,440.1	69.7
1975	14,512.5	84,220,853.4	9,614.2	66.2
1976	15,895.3	90,851,705.2	10,343.0	65.1
1977	15,901.1	92,853,681.9	10,599.7	66.7
1978	16,246.7	95,371,714.5	10,887.2	67.0
1979	16,364.7	98,126,082.3	11,201.6	68.4
1980	16,807.8	100,172,734.9	11,404.0	67.8
1981	17,189.0	101,658,168.0	11,604.8	67.5
1982	18,123.6	100,835,597.9	11,510.9	63.5
1983	18,791.5	106,071,164.8	12,108.6	64.4
1984	18,896.0	112,293,482.0	12,783.8	67.6
1985	20,473.0	116,048,994.0	13,247.6	64.7
		LOAD FORECAST ESTIMATE 851209		
1985	19,420.0	115,106,400.0	13,140.0	67.7
1986	19,862.0	117,718,630.0	13,438.2	67.7
1987	20,413.0	121,065,830.0	13,820.3	67.7
1988	20,998.0	124,430,609.0	14,165.7	67.5
1989	21,515.0	127,436,980.0	14,547.6	67.6
1990	22,116.0	130,883,160.0	14,941.0	67.6
1991	22,684.0	134,245,250.0	15,324.8	67.6
1992	23,314.0	137,972,630.0	15,750.3	67.6
1993	24,031.0	142,218,600.0	16,235.0	67.6
1994	24,776.0	146,624,000.0	16,737.9	67.6

1-HR PEAK

REPORT NO. 851209

TABLE 1 - E+W

TOTAL SYSTEM

CUSTOMERS LOADS AND DEMANDS

	MUNICIPAL		RETAIL		DIRECT	
	PEAK	ENERGY	PEAK	ENERGY	PEAK	ENERGY
1985	MW	AV MW	MW	AV MW	MW	AV MW
JAN	13371	9994	3475	2369	2737	2221
FEB	12689	9634	3231	2198	2755	2258
MAR	12352	9291	3057	2025	2804	2293
APR	11177	8203	2616	1680	2805	2263
MAY	10624	7724	2376	1460	2740	2172
JUNE	11830	8209	2093	1345	2752	2167
JULY	11723	8090	2115	1373	2701	1969
AUG	11462	8114	2199	1428	2788	2167
SEPT	11588	8099	2323	1459	2850	2233
OCT	10997	8114	2569	1587	2880	2304
NOV	12284	9010	2904	1874	2900	2346
DEC	13119	9430	3403	2215	2895	2276
1986						
JAN	13577	10145	3568	2432	2869	2309
FEB	12949	9830	3308	2251	2886	2361
MAR	12624	9495	3132	2075	2884	2346
APR	11445	8400	2682	1721	2894	2317
MAY	10877	7906	2433	1493	2829	2236
JUNE	12129	8415	2145	1377	2841	2227
JULY	12020	8292	2166	1405	2775	2025
AUG	11744	8310	2255	1463	2867	2219
SEPT	11892	8310	2367	1484	2912	2267
OCT	11230	8284	2631	1621	2923	2322
NOV	12493	9161	2976	1920	3012	2413
DEC	13369	9606	3480	2264	3009	2337
1987						
JAN						
DEC	13754	9878	3578	2329	3078	2404
DECEMBER						
1988	14160	10166	3689	2402	3136	2451
1989	14560	10450	3794	2469	3156	2468
1990	15023	10780	3917	2548	3169	2478

1-HR PEAK

REPORT NO. 851209

TABLE 1 - E+W

TOTAL SYSTEM

CUSTOMERS LOADS AND DEMANDS

1985	SUM CUSTOMERS LOADS PEAK MW	SUM CUSTOMERS LOADS ENERGY AV MW	DIVERSITY AND/OR LOSSES PEAK MW	DIVERSITY AND/OR LOSSES ENERGY AV MW	DEMAND IN TERMS OF GENERATION PEAK MW	DEMAND IN TERMS OF GENERATION ENERGY AV MW	LOAD FACTOR %
JAN	19583	14583	-351	612	19232	15195	79.0
FEB	18675	14090	-299	568	18376	14658	79.8
MAR	18213	13608	-391	549	17832	14157	79.4
APR	16598	12147	-407	473	16191	12620	77.9
MAY	15741	11355	-498	473	15243	11828	77.6
JUNE	16674	11721	-699	472	15975	12193	76.3
JULY	16539	11433	-600	488	15939	11921	74.8
AUG	16449	11709	-551	481	15898	12190	76.7
SEPT	16760	11791	-766	490	15994	12281	76.8
OCT	16446	12004	-593	475	15853	12479	78.7
NOV	18089	13231	-299	507	17790	13738	77.2
DEC	19417	13921	-158	589	19259	14510	75.3
1986							
JAN	20013	14887	-360	624	19653	15511	78.9
FEB	19142	14442	-308	584	18834	15026	79.8
MAR	18640	13915	-392	562	18248	14477	79.3
APR	17021	12437	-418	484	16603	12921	77.8
MAY	16139	11634	-512	483	15627	12117	77.5
JUNE	17115	12020	-720	483	16395	12503	76.3
JULY	16961	11722	-617	501	16344	12223	74.8
AUG	16866	11993	-568	493	16298	12486	76.6
SEPT	17171	12062	-786	501	16385	12563	76.7
OCT	16785	12226	-604	484	16181	12710	78.5
NOV	18482	13493	-305	517	18177	14010	77.1
DEC	19857	14207	-160	601	19697	14808	75.2
1987							
JAN					20188	15937	78.9
DEC	20409	14611	-164	618	20245	15229	75.2
DECEMBER							
1988	20984	15019	-170	635	20814	15654	75.2
1989	21510	15387	-173	650	21337	16037	75.2
1990	22109	15806	-177	667	21932	16473	75.1
1991					22495	16894	75.1
1992					23120	17365	75.1
1993					23831	17899	75.1
1994					24570	18452	75.1

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REPORT NO. 851209

TABLE 1 - E+W

TOTAL SYSTEM

CUSTOMERS LOADS AND DEMANDS

	SUM CUSTOMERS LOADS		DIVERSITY AND/OR LOSSES		DEMAND IN TERMS OF GENERATION		LOAD FACTOR
1985	PEAK MW	ENERGY AV MW	PEAK MW	ENERGY AV MW	PEAK MW	ENERGY AV MW	%
JAN	19776	14583	-353	612	19423	15195	78.2
FEB	18828	14090	-300	568	18528	14658	79.1
MAR	18348	13608	-385	549	17963	14157	78.8
APR	16731	12147	-411	473	16320	12620	77.3
MAY	15874	11355	-502	473	15372	11828	76.9
JUNE	16810	11721	-705	472	16105	12193	75.7
JULY	16652	11433	-605	488	16047	11921	74.3
AUG	16565	11709	-555	481	16010	12190	76.1
SEPT	16900	11791	-774	490	16126	12281	76.2
OCT	16609	12004	-598	475	16011	12479	77.9
NOV	18257	13231	-302	507	17955	13738	76.5
DEC	19579	13921	-159	589	19420	14510	74.7
1986							
JAN	20210	14887	-364	624	19846	15511	78.2
FEB	19298	14442	-310	584	18988	15026	79.1
MAR	18777	13915	-394	562	18383	14477	78.8
APR	17157	12437	-422	484	16735	12921	77.2
MAY	16275	11634	-515	483	15760	12117	76.9
JUNE	17252	12020	-725	483	16527	12503	75.7
JULY	17076	11722	-621	501	16455	12223	74.3
AUG	16984	11993	-571	493	16413	12486	76.1
SEPT	17313	12062	-791	501	16522	12563	76.0
OCT	16950	12226	-610	484	16340	12710	77.8
NOV	18652	13493	-308	517	18344	14010	76.4
DEC	20023	14207	-161	601	19862	14808	74.6
1987							
JAN					20386	15937	78.2
DEC	20579	14611	-166	618	20413	15229	74.6
DECEMBER							
1988	21159	15019	-171	635	20988	15654	74.6
1989	21689	15387	-174	650	21515	16037	74.5
1990	22294	15806	-178	667	22116	16473	74.5
1991					22684	16894	74.5
1992					23314	17365	74.5
1993					24031	17899	74.5
1994					24776	18452	74.5

1-HR PEAK

REPORT NO. 851209

TABLE 1 - ES

EAST SYSTEM

ONTARIO PRIMARY DEMAND

25 AND 60 HERTZ

1985	EAST SYSTEM 60 HERTZ PEAK MW	EAST SYSTEM 60 HERTZ ENERGY AV MW	NIAGARA 25 HERTZ PEAK MW	NIAGARA 25 HERTZ ENERGY AV MW	NORTHEASTERN 25 HERTZ PEAK MW	NORTHEASTERN 25 HERTZ ENERGY AV MW	INTER-NETWORK DIVER-SITY	EAST TOTAL PEAK MW	SYSTEM PRIMARY ENERGY AV MW
JAN	18252	14302	88	65	39	28	-30	18349	14395
FEB	17418	13782	88	66	40	28	-30	17516	13876
MAR	16896	13299	89	66	40	28	-30	16995	13393
APR	15303	11814	85	62	40	28	-30	15398	11904
MAY	14373	11045	85	62	40	28	-30	14468	11135
JUNE	15167	11431	85	62	39	26	-30	15261	11519
JULY	15117	11189	88	64	39	26	-30	15214	11279
AUG	15070	11426	88	64	40	26	-30	15168	11516
SEPT	15106	11477	88	61	39	26	-30	15203	11564
OCT	14920	11621	99	73	39	26	-30	15028	11720
NOV	16823	12837	99	72	39	28	-30	16931	12937
DEC	18234	13586	99	70	39	28	-30	18342	13684
1986									
JAN	18603	14561	105	77	39	28	-30	18717	14666
FEB	17807	14078	105	77	39	28	-30	17921	14183
MAR	17250	13569	105	77	39	28	-30	17364	13674
APR	15667	12081	105	75	39	28	-30	15781	12184
MAY	14711	11297	103	75	39	26	-30	14823	11398
JUNE	15526	11694	103	74	39	26	-30	15638	11794
JULY	15466	11443	103	72	39	26	-30	15578	11541
AUG	15415	11678	103	72	39	25	-30	15527	11775
SEPT	15471	11747	103	70	39	25	-30	15583	11842
OCT	15237	11853	103	75	39	26	-30	15349	11954
NOV	17203	13112	103	74	38	26	-30	17314	13212
DEC	18665	13889	103	73	39	26	-30	18777	13988
1987									
JAN	19140	14986	103	75	39	27	-30	19252	15088
DEC	19196	14286	101	72	37	25	-30	19304	14383
DECEMBER									
1988	19725	14674	100	72	37	25	-30	19832	14771
1989	20231	15042	100	72	37	25	-30	20338	15139
1990	20814	15468	100	72	37	25	-30	20921	15565
1991	21351	15866	100	72	37	25	-30	21458	15963
1992	21947	16310	100	72	37	25	-30	22054	16407
1993	22626	16815	100	72	37	25	-30	22733	16912
1994	23330	17338	100	72	37	25	-30	23437	17435

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REPORT NO. 851209

TABLE 1 - ES

EAST SYSTEM

ONTARIO PRIMARY DEMAND

25 AND 60 HERTZ

1985	EAST SYSTEM 60 HERTZ PEAK MW	EAST SYSTEM 60 HERTZ ENERGY AV MW	NIAGARA 25 HERTZ PEAK MW	NIAGARA 25 HERTZ ENERGY AV MW	NORTHEASTERN 25 HERTZ PEAK MW	NORTHEASTERN 25 HERTZ ENERGY AV MW	INTER-NETWORK DIVER-SITY	EAST TOTAL PEAK MW	SYSTEM PRIMARY ENERGY AV MW
JAN	18436	14302	89	65	39	28	-30	18534	14395
FEB	17564	13782	89	66	40	28	-30	17663	13876
MAR	17022	13299	90	66	40	28	-30	17122	13393
APR	15428	11814	86	62	40	28	-30	15524	11904
MAY	14498	11045	85	62	40	28	-30	14593	11135
JUNE	15293	11431	86	62	39	26	-30	15388	11519
JULY	15222	11189	89	64	39	26	-30	15320	11279
AUG	15178	11426	89	64	40	26	-30	15277	11516
SEPT	15234	11477	89	61	39	26	-30	15332	11564
OCT	15074	11621	99	73	39	26	-30	15182	11720
NOV	16985	12837	99	72	39	28	-30	17093	12937
DEC	18391	13586	99	70	39	28	-30	18499	13684
1986									
JAN	18791	14561	105	77	39	28	-30	18905	14666
FEB	17957	14078	105	77	39	28	-30	18071	14183
MAR	17382	13569	105	77	39	28	-30	17496	13674
APR	15795	12081	105	75	39	28	-30	15909	12184
MAY	14838	11297	104	75	39	26	-30	14951	11398
JUNE	15654	11694	104	74	39	26	-30	15767	11794
JULY	15573	11443	103	72	39	26	-30	15685	11541
AUG	15524	11678	104	72	39	25	-30	15637	11775
SEPT	15602	11747	104	70	39	25	-30	15715	11842
OCT	15392	11853	104	75	39	26	-30	15505	11954
NOV	17365	13112	104	74	38	26	-30	17477	13212
DEC	18824	13889	104	73	39	26	-30	18937	13988
1987									
JAN	19332	14986	104	75	39	27	-30	19445	15088
DEC	19360	14286	101	72	37	25	-30	19468	14383
DECEMBER									
1988	19892	14674	101	72	37	25	-30	20000	14771
1989	20403	15042	100	72	37	25	-30	20510	15139
1990	20992	15468	100	72	37	25	-30	21099	15565
1991	21534	15866	100	72	37	25	-30	21641	15963
1992	22135	16310	100	72	37	25	-30	22242	16407
1993	22819	16815	100	72	37	25	-30	22926	16912
1994	23530	17338	100	72	37	25	-30	23637	17435

1-HR PEAK

REPORT NO. 851209

TABLE 2 - ES

EAST SYSTEM

CUSTOMERS LOADS AND DEMANDS

	MUNICIPAL		RETAIL		DIRECT	
1985	PEAK MW	ENERGY AV MW	PEAK MW	ENERGY AV MW	PEAK MW	ENERGY AV MW
JAN	13072	9776	3310	2250	2238	1802
FEB	12410	9438	3076	2090	2252	1827
MAR	12097	9111	2909	1923	2295	1857
APR	10947	8043	2493	1600	2295	1824
MAY	10412	7573	2257	1385	2227	1738
JUNE	11631	8063	1988	1277	2255	1735
JULY	11530	7953	2016	1308	2203	1563
AUG	11268	7976	2095	1359	2285	1738
SEPT	11378	7951	2207	1387	2316	1781
OCT	10765	7947	2440	1503	2342	1840
NOV	12025	8822	2762	1778	2358	1875
DEC	12823	9214	3244	2103	2351	1828
1986						
JAN	13276	9926	3397	2309	2322	1853
FEB	12660	9628	3148	2140	2339	1883
MAR	12363	9311	2979	1969	2335	1880
APR	11213	8239	2554	1639	2358	1861
MAY	10661	7753	2309	1415	2293	1780
JUNE	11928	8268	2036	1308	2302	1764
JULY	11825	8153	2064	1339	2237	1585
AUG	11547	8171	2146	1393	2324	1759
SEPT	11680	8162	2247	1410	2370	1815
OCT	10997	8116	2497	1535	2385	1865
NOV	12232	8971	2828	1820	2473	1950
DEC	13069	9386	3314	2148	2473	1903
1987						
JAN						
DEC	13448	9655	3405	2208	2531	1954
DECEMBER						
1988	13849	9939	3509	2276	2556	1974
1989	14244	10219	3607	2338	2571	1986
1990	14702	10545	3722	2411	2584	1996

1-HR PEAK

REPORT NO. 851209

TABLE 2 - ES

EAST SYSTEM

CUSTOMERS LOADS AND DEMANDS

1985	SUM CUSTOMERS LOADS PEAK MW	SUM CUSTOMERS LOADS ENERGY AV MW	DIVERSITY AND/OR LOSSES PEAK MW	DIVERSITY AND/OR LOSSES ENERGY AV MW	DEMAND IN TERMS OF GENERATION PEAK MW	DEMAND IN TERMS OF GENERATION ENERGY AV MW	LOAD FACTOR %
JAN	18620	13828	-271	567	18349	14395	78.5
FEB	17737	13355	-221	521	17516	13876	79.2
MAR	17301	12891	-306	502	16995	13393	78.8
APR	15735	11468	-337	436	15398	11904	77.3
MAY	14896	10696	-428	439	14468	11135	77.0
JUNE	15874	11076	-613	443	15261	11519	75.5
JULY	15750	10824	-536	455	15214	11279	74.1
AUG	15647	11073	-479	443	15168	11516	75.9
SEPT	15900	11119	-697	445	15203	11564	76.1
OCT	15547	11291	-519	429	15028	11720	78.0
NOV	17145	12475	-214	462	16931	12937	76.4
DEC	18418	13145	-76	539	18342	13684	74.6
1986							
JAN	18994	14088	-277	578	18717	14666	78.4
FEB	18147	13651	-226	532	17921	14183	79.1
MAR	17677	13161	-313	513	17364	13674	78.7
APR	16126	11738	-345	446	15781	12184	77.2
MAY	15262	10949	-439	449	14823	11398	76.9
JUNE	16266	11340	-628	454	15638	11794	75.4
JULY	16126	11076	-548	465	15578	11541	74.1
AUG	16017	11322	-490	453	15527	11775	75.8
SEPT	16297	11387	-714	455	15583	11842	76.0
OCT	15879	11516	-530	438	15349	11954	77.9
NOV	17533	12741	-219	471	17314	13212	76.3
DEC	18855	13437	-78	551	18777	13988	74.5
1987							
JAN					19252	15088	78.4
DEC	19384	13817	-80	566	19304	14383	74.5
DECEMBER							
1988	19914	14189	-82	582	19832	14771	74.5
1989	20422	14543	-84	596	20338	15139	74.4
1990	21007	14953	-86	612	20921	15565	74.4
1991					21458	15963	74.4
1992					22054	16407	74.4
1993					22733	16912	74.4
1994					23437	17435	74.4

1-HR PEAK

REPORT NO. 851209 TABLE 3 - ES

EAST SYSTEM

60 HERTZ NETWORK

	SUM CUSTOMERS LOADS		DIVERSITY AND/OR LOSSES		DEMAND IN TERMS OF GENERATION		LOAD
1985	PEAK MW	ENERGY AV MW	PEAK MW	ENERGY AV MW	PEAK MW	ENERGY AV MW	FACTOR %
JAN	18516	13756	-264	546	18252	14302	78.4
FEB	17633	13282	-215	500	17418	13782	79.1
MAR	17195	12817	-299	482	16896	13299	78.7
APR	15632	11398	-329	416	15303	11814	77.2
MAY	14793	10626	-420	419	14373	11045	76.8
JUNE	15772	11007	-605	424	15167	11431	75.4
JULY	15645	10754	-528	435	15117	11189	74.0
AUG	15542	11003	-472	423	15070	11426	75.8
SEPT	15795	11051	-689	426	15106	11477	76.0
OCT	15434	11214	-514	407	14920	11621	77.9
NOV	17033	12398	-210	439	16823	12837	76.3
DEC	18305	13069	-71	517	18234	13586	74.5
1986							
JAN	18876	14008	-273	553	18603	14561	78.3
FEB	18029	13570	-222	508	17807	14078	79.1
MAR	17560	13079	-310	490	17250	13569	78.7
APR	16008	11659	-341	422	15667	12081	77.1
MAY	15146	10870	-435	427	14711	11297	76.8
JUNE	16150	11262	-624	432	15526	11694	75.3
JULY	16011	11000	-545	443	15466	11443	74.0
AUG	15901	11247	-486	431	15415	11678	75.8
SEPT	16181	11312	-710	435	15471	11747	75.9
OCT	15763	11438	-526	415	15237	11853	77.8
NOV	17418	12663	-215	449	17203	13112	76.2
DEC	18739	13360	-74	529	18665	13889	74.4
1987							
JAN					19140	14986	78.3
DEC	19272	13742	-76	544	19196	14286	74.4
DECEMBER							
1988	19802	14114	-77	560	19725	14674	74.4
1989	20310	14469	-79	573	20231	15042	74.4
1990	20896	14878	-82	590	20814	15468	74.3
1991					21351	15866	74.3
1992					21947	16310	74.3
1993					22626	16815	74.3
1994					23330	17338	74.3

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REPORT NO. 851209

TABLE 4 - ES

EAST SYSTEM - NIAGARA

25 HERTZ NETWORK

1985	SUM CUSTOMERS LOADS PEAK MW	SUM CUSTOMERS LOADS ENERGY AV MW	DIVERSITY AND/OR LOSSES PEAK MW	DIVERSITY AND/OR LOSSES ENERGY AV MW	DEMAND IN TERMS OF GENERATION PEAK MW	DEMAND IN TERMS OF GENERATION ENERGY AV MW	LOAD FACTOR %
JAN	71	50	17	15	88	65	73.9
FEB	71	51	17	15	88	66	75.0
MAR	72	51	17	15	89	66	74.2
APR	69	48	16	14	85	62	72.9
MAY	69	48	16	14	85	62	72.9
JUNE	69	48	16	14	85	62	72.9
JULY	71	49	17	15	88	64	72.7
AUG	71	49	17	15	88	64	72.7
SEPT	71	47	17	14	88	61	69.3
OCT	80	56	19	17	99	73	73.7
NOV	80	55	19	17	99	72	72.7
DEC	80	54	19	16	99	70	70.7
1986							
JAN	85	59	20	18	105	77	73.3
FEB	85	59	20	18	105	77	73.3
MAR	85	59	20	18	105	77	73.3
APR	85	58	20	17	105	75	71.4
MAY	83	58	20	17	103	75	72.8
JUNE	83	57	20	17	103	74	71.8
JULY	83	55	20	17	103	72	69.9
AUG	83	55	20	17	103	72	69.9
SEPT	83	54	20	16	103	70	68.0
OCT	83	58	20	17	103	75	72.8
NOV	83	57	20	17	103	74	71.8
DEC	83	56	20	17	103	73	70.9
1987							
JAN					103	75	72.8
DEC	82	55	19	17	101	72	71.3
DECEMBER							
1988	81	55	19	17	100	72	72.0
1989	81	55	19	17	100	72	72.0
1990	81	55	19	17	100	72	72.0
1991					100	72	72.0
1992					100	72	72.0
1993					100	72	72.0
1994					100	72	72.0

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REPORT NO. 851209

TABLE 5 - ES

EAST SYSTEM -NORTHEASTERN REGION

25 HERTZ NETWORK

	SUM CUSTOMERS LOADS		DIVERSITY AND/OR LOSSES		DEMAND IN TERMS OF GENERATION		
1985	PEAK MW	ENERGY AV MW	PEAK MW	ENERGY AV MW	PEAK MW	ENERGY AV MW	LOAD FACTOR %
JAN	33	22	6	6	39	28	71.8
FEB	34	22	6	6	40	28	70.0
MAR	34	22	6	6	40	28	70.0
APR	34	22	6	6	40	28	70.0
MAY	34	22	6	6	40	28	70.0
JUNE	33	21	6	5	39	26	66.7
JULY	33	21	6	5	39	26	66.7
AUG	34	21	6	5	40	26	65.0
SEPT	33	21	6	5	39	26	66.7
OCT	33	21	6	5	39	26	66.7
NOV	33	22	6	6	39	28	71.8
DEC	33	22	6	6	39	28	71.8
1986							
JAN	33	22	6	6	39	28	71.8
FEB	33	22	6	6	39	28	71.8
MAR	33	22	6	6	39	28	71.8
APR	33	22	6	6	39	28	71.8
MAY	33	21	6	5	39	26	66.7
JUNE	33	21	6	5	39	26	66.7
JULY	33	21	6	5	39	26	66.7
AUG	33	20	6	5	39	25	64.1
SEPT	33	20	6	5	39	25	64.1
OCT	33	21	6	5	39	26	66.7
NOV	32	21	6	5	38	26	68.4
DEC	33	21	6	5	39	26	66.7
1987							
JAN					39	27	69.2
DEC	31	20	6	5	37	25	67.6
DECEMBER							
1988	31	20	6	5	37	25	67.6
1989	31	20	6	5	37	25	67.6
1990	31	20	6	5	37	25	67.6
1991					37	25	67.6
1992					37	25	67.6
1993					37	25	67.6
1994					37	25	67.6

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REPORT NO. 851209

TABLE 6 - ES

EAST SYSTEM

SUM OF CUSTOMERS LOADS BY REGION

	CENTRAL		WESTERN		EASTERN	
1985	PEAK MW	ENERGY AV MW	PEAK MW	ENERGY AV MW	PEAK MW	ENERGY AV MW
JAN	8993	6726	3813	2845	2774	1981
FEB	8547	6503	3663	2788	2610	1877
MAR	8362	6323	3629	2731	2526	1774
APR	7607	5613	3423	2503	2199	1528
MAY	7232	5296	3305	2408	2024	1381
JUNE	8076	5634	3625	2536	2023	1388
JULY	8064	5573	3583	2519	2008	1364
AUG	7848	5559	3594	2565	2006	1372
SEPT	7926	5541	3623	2535	2048	1410
OCT	7491	5523	3438	2524	2140	1489
NOV	8288	6086	3700	2725	2454	1700
DEC	8790	6328	3805	2751	2788	1900
1986						
JAN	9109	6802	3925	2930	2857	2039
FEB	8717	6623	3772	2873	2697	1940
MAR	8522	6439	3716	2799	2610	1833
APR	7792	5744	3524	2577	2266	1574
MAY	7405	5417	3395	2476	2089	1424
JUNE	8282	5771	3713	2599	2092	1435
JULY	8274	5712	3662	2575	2074	1409
AUG	8048	5695	3688	2631	2069	1415
SEPT	8144	5688	3709	2597	2118	1457
OCT	7641	5625	3511	2578	2198	1529
NOV	8484	6221	3784	2787	2526	1749
DEC	9023	6481	3884	2808	2871	1957
DECEMBER						
1987	9294	6678	4002	2892	2966	2021
1988	9569	6874	4089	2953	3068	2090
1989	9835	7064	4169	3009	3167	2157
1990	10144	7284	4261	3074	3281	2233

1-HR PEAK

REPORT NO. 851209 TABLE 6 - ES

EAST SYSTEM

SUM OF CUSTOMERS LOADS BY REGION

	GEORGIAN BAY		NORTHEASTERN		TOTAL	
	PEAK	ENERGY	PEAK	ENERGY	PEAK	ENERGY
1985	MW	AV MW	MW	AV MW	MW	AV MW
JAN	1285	902	1755	1374	18620	13828
FEB	1202	836	1715	1351	17737	13355
MAR	1125	773	1659	1289	17301	12891
APR	983	653	1524	1171	15735	11468
MAY	904	556	1431	1056	14896	10696
JUNE	820	541	1330	978	15874	11076
JULY	823	545	1271	824	15750	10824
AUG	832	559	1367	1018	15647	11073
SEPT	875	567	1427	1067	15900	11119
OCT	987	623	1491	1131	15547	11291
NOV	1067	724	1637	1240	17145	12475
DEC	1258	842	1778	1324	18418	13145
1986						
JAN	1316	925	1787	1393	18994	14088
FEB	1228	854	1733	1361	18147	13651
MAR	1150	790	1680	1300	17677	13161
APR	1004	666	1540	1178	16126	11738
MAY	924	568	1450	1064	15262	10949
JUNE	838	552	1342	983	16266	11340
JULY	842	557	1274	824	16126	11076
AUG	852	572	1360	1009	16017	11322
SEPT	895	579	1433	1066	16297	11387
OCT	1008	636	1521	1149	15879	11516
NOV	1092	742	1647	1242	17533	12741
DEC	1283	859	1794	1332	18855	13437
DECEMBER						
1987	1320	884	1802	1342	19384	13817
1988	1364	913	1826	1359	19914	14189
1989	1405	940	1846	1374	20422	14543
1990	1454	973	1867	1389	21007	14953

1-HR PEAK

REPORT NO. 851209 TABLE 1 - WS

WEST SYSTEM

CUSTOMERS LOADS AND DEMANDS

	MUNICIPAL		RETAIL		DIRECT	
	PEAK	ENERGY	PEAK	ENERGY	PEAK	ENERGY
1985	MW	AV MW	MW	AV MW	MW	AV MW
JAN	299	218	165	119	498	419
FEB	280	196	155	108	502	431
MAR	256	179	148	102	509	436
APR	230	160	123	80	510	439
MAY	213	151	120	75	512	434
JUNE	199	146	105	67	497	432
JULY	193	138	98	65	498	406
AUG	194	138	104	69	503	430
SEPT	210	148	116	72	534	453
OCT	232	167	129	83	538	464
NOV	259	188	142	96	542	471
DEC	295	216	159	112	544	448
1986						
JAN	301	219	171	123	547	456
FEB	289	202	160	111	547	478
MAR	261	184	153	105	549	466
APR	232	161	127	82	536	456
MAY	215	153	124	77	537	455
JUNE	200	147	109	69	539	463
JULY	195	139	102	67	538	440
AUG	197	140	108	71	543	460
SEPT	212	149	121	74	542	452
OCT	234	168	134	86	538	456
NOV	261	189	148	100	539	463
DEC	300	220	166	116	536	435
1987						
JAN						
DEC	306	224	173	121	546	450
DECEMBER						
1988	311	227	180	126	579	476
1989	316	231	188	131	585	481
1990	321	235	195	136	585	482

1-HR PEAK

REPORT NO. 851209

TABLE 1 - WS

WEST SYSTEM

CUSTOMERS LOADS AND DEMANDS

1985	SUM CUSTOMERS LOADS PEAK MW	SUM CUSTOMERS LOADS ENERGY AV MW	DIVERSITY AND/OR LOSSES PEAK MW	DIVERSITY AND/OR LOSSES ENERGY AV MW	DEMAND IN TERMS OF GENERATION PEAK MW	DEMAND IN TERMS OF GENERATION ENERGY AV MW	LOAD FACTOR %
JAN	962	755	-28	45	934	800	85.7
FEB	937	734	-24	48	913	782	85.7
MAR	912	718	-38	47	874	765	87.5
APR	863	679	-36	37	827	716	86.6
MAY	845	660	-24	33	821	693	84.4
JUNE	800	645	-22	29	778	674	86.6
JULY	789	609	-25	33	764	642	84.0
AUG	802	636	-26	38	776	674	86.9
SEPT	861	672	-9	46	852	718	84.3
OCT	899	713	-33	46	866	759	87.6
NOV	944	756	-31	45	913	801	87.7
DEC	999	776	-32	50	967	826	85.4
1986							
JAN	1019	798	-30	48	989	846	85.5
FEB	995	791	-25	51	970	842	86.8
MAR	963	754	-40	49	923	803	87.0
APR	895	699	-37	38	858	737	85.9
MAY	876	685	-25	34	851	719	84.5
JUNE	848	679	-24	31	824	710	86.2
JULY	835	646	-27	36	808	682	84.4
AUG	848	671	-27	40	821	711	86.6
SEPT	874	675	-9	46	865	721	83.4
OCT	906	710	-34	46	872	756	86.7
NOV	949	752	-31	45	918	797	86.8
DEC	1002	770	-33	50	969	820	84.6
1987							
JAN					989	849	85.8
DEC	1025	794	-33	52	992	846	85.3
DECEMBER							
1988	1070	829	-35	54	1035	883	85.3
1989	1088	843	-35	55	1053	898	85.3
1990	1102	853	-36	55	1066	908	85.2
1991					1093	931	85.2
1992					1124	958	85.2
1993					1158	987	85.2
1994					1194	1017	85.2

20-MIN

REPORT NO. 851209

TABLE 1 - WS

WEST SYSTEM

CUSTOMERS LOADS AND DEMANDS

1985	SUM CUSTOMERS LOADS PEAK MW	SUM CUSTOMERS LOADS ENERGY AV MW	DIVERSITY AND/OR LOSSES PEAK MW	DIVERSITY AND/OR LOSSES ENERGY AV MW	DEMAND IN TERMS OF GENERATION PEAK MW	DEMAND IN TERMS OF GENERATION ENERGY AV MW	LOAD FACTOR %
JAN	968	755	-28	45	940	800	85.1
FEB	942	734	-24	48	918	782	85.2
MAR	916	718	-38	47	878	765	87.1
APR	868	679	-36	37	832	716	86.1
MAY	849	660	-24	33	825	693	84.0
JUNE	803	645	-22	29	781	674	86.3
JULY	792	609	-25	33	767	642	83.7
AUG	806	636	-26	38	780	674	86.4
SEPT	865	672	-9	46	856	718	83.9
OCT	903	713	-33	46	870	759	87.2
NOV	948	756	-31	45	917	801	87.4
DEC	1004	776	-33	50	971	826	85.1
1986							
JAN	1025	798	-30	48	995	846	85.0
FEB	999	791	-25	51	974	842	86.4
MAR	967	754	-40	49	927	803	86.6
APR	900	699	-37	38	863	737	85.4
MAY	881	685	-25	34	856	719	84.0
JUNE	852	679	-24	31	828	710	85.7
JULY	839	646	-27	36	812	682	84.0
AUG	853	671	-27	40	826	711	86.1
SEPT	879	675	-9	46	870	721	82.9
OCT	910	710	-34	46	876	756	86.3
NOV	953	752	-31	45	922	797	86.4
DEC	1008	770	-33	50	975	820	84.1
1987							
JAN					995	849	85.3
DEC	1030	794	-33	52	997	846	84.9
DECEMBER							
1988	1076	829	-35	54	1041	883	84.8
1989	1094	843	-36	55	1058	898	84.9
1990	1108	853	-36	55	1072	908	84.7
1991					1099	931	84.7
1992					1130	958	84.8
1993					1165	987	84.7
1994					1201	1017	84.7

TOTAL SYSTEM ONTARIO PRIMARY DEMANDS
BASED ON LOAD FORECAST REPORT NO. 851209

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	AVERAGE OR TOTAL
1985													
20 MIN PEAK MW	19423.	18528.	17963.	16320.	15372.	16105.	16047.	16010.	16126.	16011.	17955.	19420.	17106.7
1 HOUR PEAK MW	19232.	18376.	17832.	16191.	15243.	15975.	15939.	15898.	15994.	15853.	17790.	19259.	16965.1
ENERGY GWH	11305.	9850.	10533.	9086.	8800.	8779.	8869.	9069.	8842.	9284.	9891.	10795.	115106.4
ENERGY AV MW	15195.	14658.	14157.	12620.	11828.	12193.	11921.	12190.	12281.	12479.	13738.	14510.	13140.0
*L.F. %	79.0	79.8	79.4	77.9	77.6	76.3	74.8	76.7	76.8	78.7	77.2	75.3	77.5
1986													
20 MIN PEAK MW	19846.	18988.	18383.	16735.	15760.	16527.	16455.	16413.	16522.	16340.	18344.	19862.	17514.6
1 HOUR PEAK MW	19653.	18834.	18248.	16603.	15627.	16395.	16344.	16298.	16385.	16181.	18177.	19697.	17370.2
ENERGY GWH	11540.	10097.	10771.	9303.	9015.	9002.	9094.	9290.	9045.	9456.	10087.	11017.	117718.6
ENERGY AV MW	15511.	15026.	14477.	12921.	12117.	12503.	12223.	12486.	12563.	12710.	14010.	14808.	13438.2
*L.F. %	78.9	79.8	79.3	77.8	77.5	76.3	74.8	76.6	76.7	78.5	77.1	75.2	77.4
1987													
20 MIN PEAK MW	20386.	19497.	18882.	17188.	16239.	17009.	16944.	16891.	16975.	16778.	18818.	20413.	18001.7
1 HOUR PEAK MW	20188.	19342.	18745.	17053.	16105.	16874.	16831.	16775.	16837.	16615.	18647.	20245.	17854.7
ENERGY GWH	11857.	10372.	11066.	9564.	9297.	9267.	9371.	9566.	9300.	9717.	10356.	11330.	121065.8
ENERGY AV MW	15937.	15435.	14873.	13284.	12496.	12871.	12596.	12858.	12916.	13060.	14384.	15229.	13820.3
*L.F. %	78.9	79.8	79.3	77.9	77.6	76.3	74.8	76.6	76.7	78.6	77.1	75.2	77.4
1988													
20 MIN PEAK MW	20917.	20000.	19367.	17619.	16643.	17435.	17371.	17315.	17401.	17202.	19307.	20988.	18463.8
1 HOUR PEAK MW	20713.	19839.	19226.	17481.	16505.	17296.	17255.	17196.	17260.	17035.	19130.	20814.	18312.4
ENERGY GWH	12155.	11009.	11339.	9794.	9516.	9489.	9598.	9796.	9522.	9952.	10615.	11647.	124430.6
ENERGY AV MW	16337.	15817.	15241.	13603.	12790.	13179.	12901.	13167.	13225.	13376.	14743.	15654.	14165.7
*L.F. %	78.9	79.7	79.3	77.8	77.5	76.2	74.8	76.6	76.6	78.5	77.1	75.2	77.4
1989													
20 MIN PEAK MW	21510.	20562.	19908.	18100.	17096.	17906.	17837.	17781.	17862.	17658.	19827.	21515.	18963.5
1 HOUR PEAK MW	21301.	20397.	19763.	17957.	16955.	17764.	17717.	17660.	17717.	17487.	19646.	21337.	18808.3
ENERGY GWH	12504.	10932.	11659.	10064.	9777.	9747.	9861.	10063.	9778.	10217.	10901.	11932.	127437.0
ENERGY AV MW	16807.	16268.	15671.	13978.	13141.	13538.	13254.	13526.	13580.	13733.	15140.	16037.	14547.6
*L.F. %	78.9	79.8	79.3	77.8	77.5	76.2	74.8	76.6	76.6	78.5	77.1	75.2	77.3
1990													
20 MIN PEAK MW	22116.	21137.	20464.	18606.	17564.	18376.	18328.	18263.	18354.	18169.	20384.	22116.	19489.7
1 HOUR PEAK MW	21899.	20966.	20314.	18458.	17416.	18230.	18205.	18137.	18202.	17991.	20196.	21932.	19328.8
ENERGY GWH	12850.	11232.	11977.	10338.	10036.	9996.	10128.	10329.	10039.	10505.	11198.	12256.	130883.2
ENERGY AV MW	17271.	16714.	16098.	14358.	13489.	13884.	13613.	13883.	13943.	14119.	15553.	16473.	14941.0
*L.F. %	78.9	79.7	79.2	77.8	77.5	76.2	74.8	76.5	76.6	78.5	77.0	75.1	77.3
1991													
20 MIN PEAK MW	22683.	21678.	20990.	19084.	18015.	18848.	18799.	18733.	18825.	18637.	20908.	22684.	19990.3
1 HOUR PEAK MW	22462.	21504.	20836.	18933.	17863.	18699.	18672.	18602.	18670.	18454.	20714.	22495.	19825.4
ENERGY GWH	13180.	11522.	12288.	10596.	10295.	10254.	10392.	10599.	10295.	10775.	11480.	12569.	134245.2
ENERGY AV MW	17715.	17146.	16516.	14717.	13837.	14241.	13968.	14246.	14299.	14483.	15944.	16894.	15324.8
*L.F. %	78.9	79.7	79.3	77.7	77.5	76.2	74.8	76.6	76.6	78.5	77.0	75.1	77.3

*LOAD FACTOR BASED ON 1 HOUR PEAK

TOTAL SYSTEM ONTARIO PRIMARY DEMANDS
BASED ON LOAD FORECAST REPORT NO. 851209

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	AVERAGE OR TOTAL
1992													
20 MIN PEAK MW	23312.	22281.	21572.	19614.	18515.	19371.	19322.	19253.	19348.	19153.	21489.	23314.	20545.3
1 HOUR PEAK MW	23086.	22102.	21414.	19459.	18359.	19217.	19191.	19120.	19188.	18965.	21289.	23120.	20375.9
ENERGY GWH	13546.	11842.	12629.	10891.	10580.	10539.	10680.	10893.	10581.	11074.	11798.	12920.	137972.6
ENERGY AV MW	18207.	17622.	16975.	15126.	14221.	14637.	14355.	14641.	14696.	14884.	16386.	17365.	15750.3
*L.F. %	78.9	79.7	79.3	77.7	77.5	76.2	74.8	76.6	76.6	78.5	77.0	75.1	77.3
1993													
20 MIN PEAK MW	24029.	22966.	22236.	20218.	19085.	19968.	19916.	19846.	19943.	19742.	22150.	24031.	21177.4
1 HOUR PEAK MW	23796.	22782.	22073.	20058.	18924.	19810.	19782.	19707.	19779.	19549.	21943.	23831.	21002.8
ENERGY GWH	13963.	12206.	13018.	11226.	10906.	10863.	11009.	11228.	10907.	11415.	12162.	13317.	142218.6
ENERGY AV MW	18767.	18164.	17497.	15591.	14659.	15087.	14797.	15091.	15148.	15343.	16891.	17899.	16235.0
*L.F. %	78.9	79.7	79.3	77.7	77.5	76.2	74.8	76.6	76.6	78.5	77.0	75.1	77.3
1994													
20 MIN PEAK MW	24775.	23679.	22925.	20844.	19677.	20587.	20534.	20460.	20561.	20354.	22836.	24776.	21833.9
1 HOUR PEAK MW	24533.	23487.	22756.	20679.	19511.	20423.	20394.	20318.	20391.	20155.	22623.	24570.	21653.3
ENERGY GWH	14395.	12585.	13422.	11574.	11244.	11200.	11350.	11576.	11245.	11769.	12539.	13728.	146624.0
ENERGY AV MW	19348.	18727.	18040.	16075.	15113.	15555.	15255.	15559.	15618.	15818.	17415.	18452.	16737.9
*L.F. %	78.9	79.7	79.3	77.7	77.5	76.2	74.8	76.6	76.6	78.5	77.0	75.1	77.3
1995													
20 MIN PEAK MW	25545.	24414.	23639.	21493.	20289.	21227.	21172.	21097.	21200.	20988.	23547.	25547.	22513.2
1 HOUR PEAK MW	25297.	24218.	23465.	21323.	20118.	21059.	21029.	20950.	21026.	20781.	23328.	25335.	22327.5
ENERGY GWH	14844.	12976.	13839.	11934.	11594.	11548.	11704.	11936.	11594.	12135.	12928.	14156.	151188.8
ENERGY AV MW	19951.	19309.	18601.	16575.	15584.	16039.	15731.	16043.	16103.	16310.	17956.	19027.	17259.0
*L.F. %	78.9	79.7	79.3	77.7	77.5	76.2	74.8	76.6	76.6	78.5	77.0	75.1	77.3
1996													
20 MIN PEAK MW	26029.	24878.	24086.	21901.	20674.	21630.	21573.	21498.	21603.	21386.	23992.	26031.	22940.1
1 HOUR PEAK MW	25777.	24678.	23910.	21727.	20499.	21458.	21428.	21348.	21424.	21175.	23770.	25815.	22750.8
ENERGY GWH	15125.	13222.	14102.	12160.	11814.	11767.	11926.	12162.	11814.	12365.	13174.	14425.	154055.1
ENERGY AV MW	20329.	19675.	18954.	16889.	15879.	16343.	16029.	16347.	16409.	16619.	18297.	19388.	17586.2
*L.F. %	78.9	79.7	79.3	77.7	77.5	76.2	74.8	76.6	76.6	78.5	77.0	75.1	77.3
1997													
20 MIN PEAK MW	26660.	25480.	24669.	22431.	21174.	22153.	22096.	22018.	22126.	21903.	24574.	26661.	23495.4
1 HOUR PEAK MW	26400.	25275.	24488.	22253.	20995.	21977.	21946.	21865.	21943.	21688.	24345.	26440.	23301.4
ENERGY GWH	15492.	13542.	14443.	12455.	12100.	12052.	12214.	12457.	12100.	12664.	13493.	14774.	157783.4
ENERGY AV MW	20822.	20152.	19412.	17298.	16263.	16739.	16417.	16743.	16805.	17022.	18740.	19858.	18011.8
*L.F. %	78.9	79.7	79.3	77.7	77.5	76.2	74.8	76.6	76.6	78.5	77.0	75.1	77.3
1998													
20 MIN PEAK MW	27277.	26070.	25241.	22951.	21665.	22667.	22608.	22528.	22638.	22410.	25142.	27279.	24039.5
1 HOUR PEAK MW	27012.	25860.	25055.	22768.	21481.	22486.	22455.	22371.	22451.	22191.	24909.	27052.	23840.9
ENERGY GWH	15849.	13855.	14777.	12743.	12380.	12331.	12497.	12745.	12380.	12957.	13805.	15116.	161436.3
ENERGY AV MW	21303.	20618.	19862.	17699.	16640.	17126.	16797.	17131.	17195.	17415.	19173.	20317.	18428.8
*L.F. %	78.9	79.7	79.3	77.7	77.5	76.2	74.8	76.6	76.6	78.5	77.0	75.1	77.3

*LOAD FACTOR BASED ON 1 HOUR PEAK

TOTAL SYSTEM ONTARIO PRIMARY DEMANDS
BASED ON LOAD FORECAST REPORT NO. 851209

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	AVERAGE OR TOTAL
1999													
20 MIN PEAK MW	27949.	26714.	25864.	23517.	22199.	23226.	23165.	23084.	23197.	22964.	25763.	27952.	24632.9
1 HOUR PEAK MW	27679.	26499.	25673.	23331.	22012.	23042.	23009.	22922.	23006.	22738.	25525.	27720.	24429.7
ENERGY GWH	16241.	14198.	15143.	13058.	12685.	12635.	12806.	13060.	12686.	13277.	14146.	15489.	165423.0
ENERGY AV MW	21829.	21128.	20353.	18136.	17050.	17549.	17212.	17554.	17620.	17846.	19647.	20819.	18883.9
*L.F. %	78.9	79.7	79.3	77.7	77.5	76.2	74.8	76.6	76.6	78.5	77.0	75.1	77.3
2000													
20 MIN PEAK MW	28647.	27380.	26508.	24103.	22753.	23805.	23743.	23659.	23776.	23536.	26406.	28649.	25247.2
1 HOUR PEAK MW	28369.	27159.	26314.	23913.	22561.	23615.	23583.	23495.	23579.	23305.	26160.	28411.	25038.6
ENERGY GWH	16646.	14552.	15520.	13383.	13002.	12950.	13124.	13385.	13002.	13609.	14499.	15876.	169547.2
ENERGY AV MW	22374.	21655.	20860.	18587.	17476.	17986.	17640.	17991.	18059.	18291.	20137.	21339.	19354.7
*L.F. %	78.9	79.7	79.3	77.7	77.5	76.2	74.8	76.6	76.6	78.5	77.0	75.1	77.3
2001													
20 MIN PEAK MW	29288.	27992.	27101.	24642.	23261.	24338.	24275.	24189.	24307.	24062.	26996.	29290.	25811.7
1 HOUR PEAK MW	29002.	27766.	26902.	24446.	23065.	24143.	24111.	24020.	24106.	23827.	26746.	29046.	25598.4
ENERGY GWH	17018.	14877.	15867.	13682.	13293.	13239.	13418.	13684.	13293.	13912.	14823.	16230.	173337.6
ENERGY AV MW	22874.	22138.	21326.	19003.	17867.	18388.	18035.	18393.	18463.	18699.	20587.	21815.	19787.4
*L.F. %	78.9	79.7	79.3	77.7	77.5	76.2	74.8	76.6	76.6	78.5	77.0	75.1	77.3
2002													
20 MIN PEAK MW	29847.	28527.	27620.	25113.	23705.	24803.	24738.	24651.	24771.	24523.	27512.	29849.	26304.9
1 HOUR PEAK MW	29557.	28297.	27416.	24914.	23506.	24605.	24570.	24479.	24566.	24281.	27256.	29601.	26087.6
ENERGY GWH	17343.	15161.	16169.	13944.	13547.	13493.	13674.	13946.	13547.	14178.	15106.	16540.	176649.8
ENERGY AV MW	23311.	22561.	21733.	19367.	18208.	18740.	18379.	18745.	18815.	19056.	20980.	22231.	20165.5
*L.F. %	78.9	79.7	79.3	77.7	77.5	76.2	74.8	76.6	76.6	78.5	77.0	75.1	77.3
2003													
20 MIN PEAK MW	30442.	29095.	28169.	25613.	24177.	25296.	25231.	25141.	25264.	25011.	28059.	30444.	26828.5
1 HOUR PEAK MW	30145.	28860.	27962.	25409.	23973.	25094.	25060.	24966.	25056.	24765.	27799.	30190.	26606.8
ENERGY GWH	17689.	15463.	16492.	14221.	13816.	13761.	13947.	14224.	13817.	14460.	15407.	16869.	180166.0
ENERGY AV MW	23775.	23011.	22166.	19751.	18570.	19113.	18746.	19118.	19190.	19436.	21398.	22674.	20566.9
*L.F. %	78.9	79.7	79.3	77.7	77.5	76.2	74.8	76.6	76.6	78.5	77.0	75.1	77.3
2004													
20 MIN PEAK MW	31060.	29685.	28742.	26134.	24670.	25811.	25744.	25653.	25778.	25519.	28631.	31062.	27374.1
1 HOUR PEAK MW	30759.	29446.	28531.	25927.	24461.	25604.	25569.	25473.	25565.	25269.	28364.	30804.	27147.7
ENERGY GWH	18048.	15778.	16827.	14510.	14097.	14041.	14230.	14512.	14098.	14754.	15720.	17212.	183828.6
ENERGY AV MW	24258.	23479.	22617.	20153.	18948.	19501.	19127.	19506.	19580.	19831.	21834.	23135.	20985.0
*L.F. %	78.9	79.7	79.3	77.7	77.5	76.2	74.8	76.6	76.6	78.5	77.0	75.1	77.3
2005													
20 MIN PEAK MW	31702.	30299.	29335.	26673.	25179.	26343.	26276.	26182.	26310.	26046.	29221.	31718.	27940.3
1 HOUR PEAK MW	31393.	30055.	29120.	26462.	24966.	26134.	26098.	25999.	26094.	25790.	28950.	31440.	27708.4
ENERGY GWH	18421.	16103.	17174.	14810.	14388.	14331.	14524.	14812.	14388.	15059.	16044.	17568.	187623.4
ENERGY AV MW	24759.	23963.	23083.	20569.	19339.	19904.	19522.	19909.	19984.	20240.	22284.	23613.	21418.2
*L.F. %	78.9	79.7	79.3	77.7	77.5	76.2	74.8	76.6	76.6	78.5	77.0	75.1	77.3

*LOAD FACTOR BASED ON 1 HOUR PEAK

TOTAL SYSTEM ONTARIO PRIMARY DEMANDS
BASED ON LOAD FORECAST REPORT NO. 851209

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	AVERAGE OR TOTAL
2006													
20 MIN PEAK MW	32358.	30927.	29942.	27227.	25700.	26889.	26819.	26725.	26855.	26585.	29826.	32360.	28517.7
1 HOUR PEAK MW	32043.	30677.	29723.	27010.	25483.	26675.	26637.	26538.	26633.	26324.	29549.	32091.	28282.0
ENERGY GWH	18802.	16436.	17530.	15116.	14687.	14628.	14825.	15119.	14687.	15371.	16376.	17932.	191510.2
ENERGY AV MW	25271.	24459.	23562.	20995.	19740.	20316.	19926.	20321.	20398.	20660.	22745.	24102.	21861.9
*L.F. %	78.9	79.7	79.3	77.7	77.5	76.2	74.8	76.6	76.6	78.5	77.0	75.1	77.3
2007													
20 MIN PEAK MW	32967.	31509.	30507.	27739.	26184.	27395.	27324.	27227.	27360.	27085.	30388.	32970.	29054.6
1 HOUR PEAK MW	32648.	31255.	30282.	27518.	25962.	27177.	27139.	27037.	27135.	26819.	30106.	32695.	28814.4
ENERGY GWH	19157.	16746.	17860.	15402.	14963.	14903.	15104.	15404.	14963.	15660.	16685.	18270.	195115.9
ENERGY AV MW	25748.	24920.	24005.	21391.	20111.	20699.	20301.	20704.	20782.	21049.	23173.	24556.	22273.5
*L.F. %	78.9	79.7	79.3	77.7	77.5	76.2	74.8	76.6	76.6	78.5	77.0	75.1	77.3
2008													
20 MIN PEAK MW	33554.	32069.	31050.	28232.	26650.	27883.	27810.	27712.	27847.	27567.	30929.	33556.	29571.4
1 HOUR PEAK MW	33228.	31811.	30820.	28008.	26424.	27661.	27622.	27519.	27619.	27297.	30641.	33277.	29327.2
ENERGY GWH	19497.	17044.	18177.	15675.	15229.	15168.	15373.	15678.	15229.	15939.	16982.	18594.	198586.6
ENERGY AV MW	26206.	25363.	24432.	21771.	20469.	21067.	20662.	21073.	21152.	21423.	23586.	24992.	22669.7
*L.F. %	78.9	79.7	79.3	77.7	77.5	76.2	74.8	76.6	76.6	78.5	77.0	75.1	77.3
2009													
20 MIN PEAK MW	34130.	32621.	31582.	28717.	27107.	28362.	28288.	28188.	28327.	28041.	31459.	34133.	30079.6
1 HOUR PEAK MW	33799.	32357.	31350.	28490.	26879.	28135.	28096.	27991.	28092.	27766.	31168.	33849.	29831.0
ENERGY GWH	19832.	17337.	18490.	15944.	15491.	15429.	15637.	15947.	15491.	16213.	17274.	18914.	201997.7
ENERGY AV MW	26656.	25799.	24852.	22145.	20821.	21429.	21017.	21434.	21515.	21791.	23991.	25422.	23059.1
*L.F. %	78.9	79.7	79.3	77.7	77.5	76.2	74.8	76.6	76.6	78.5	77.0	75.1	77.3
2010													
20 MIN PEAK MW	34697.	33162.	32106.	29193.	27558.	28833.	28757.	28655.	28796.	28506.	31982.	34698.	30578.6
1 HOUR PEAK MW	34360.	32894.	31870.	28962.	27324.	28603.	28563.	28456.	28559.	28226.	31685.	34410.	30326.1
ENERGY GWH	20161.	17625.	18796.	16209.	15748.	15685.	15896.	16213.	15749.	16482.	17560.	19227.	205349.3
ENERGY AV MW	27098.	26227.	25264.	22512.	21166.	21785.	21366.	21791.	21873.	22153.	24389.	25843.	23441.7
*L.F. %	78.9	79.7	79.3	77.7	77.5	76.2	74.8	76.6	76.6	78.5	77.0	75.1	77.3
2011													
20 MIN PEAK MW	35268.	33709.	32636.	29675.	28011.	29307.	29231.	29128.	29271.	28976.	32510.	35271.	31082.8
1 HOUR PEAK MW	34926.	33436.	32396.	29439.	27775.	29074.	29034.	28925.	29028.	28692.	32207.	34978.	30825.8
ENERGY GWH	20493.	17915.	19107.	16476.	16007.	15943.	16158.	16480.	16008.	16753.	17850.	19545.	208735.0
ENERGY AV MW	27544.	26659.	25681.	22883.	21515.	22143.	21718.	22150.	22233.	22518.	24791.	26270.	23828.2
*L.F. %	78.9	79.7	79.3	77.7	77.5	76.2	74.8	76.6	76.6	78.5	77.0	75.1	77.3
2012													
20 MIN PEAK MW	35812.	34227.	33137.	30131.	28442.	29758.	29681.	29576.	29721.	29422.	33009.	35813.	31560.8
1 HOUR PEAK MW	35463.	33951.	32894.	29892.	28202.	29521.	29480.	29369.	29476.	29134.	32702.	35515.	31299.9
ENERGY GWH	20808.	18190.	19401.	16730.	16253.	16188.	16407.	16733.	16254.	17012.	18125.	19845.	211944.7
ENERGY AV MW	27968.	27069.	26076.	23236.	21845.	22484.	22052.	22490.	22575.	22865.	25173.	26674.	24194.6
*L.F. %	78.9	79.7	79.3	77.7	77.5	76.2	74.8	76.6	76.6	78.5	77.0	75.1	77.3

*LOAD FACTOR BASED ON 1 HOUR PEAK

EAST SYSTEM ONTARIO PRIMARY DEMANDS
BASED ON THE LOAD FORECAST REPORT NO. 851209

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	AVERAGE OR TOTAL
1985													
20 MIN PEAK MW	18534.	17663.	17122.	15524.	14593.	15388.	15320.	15277.	15332.	15182.	17093.	18499.	16293.9
1 HOUR PEAK MW	18349.	17516.	16995.	15398.	14468.	15261.	15214.	15168.	15203.	15028.	16931.	18342.	16156.2
ENERGY GWH	10710.	9325.	9964.	8571.	8284.	8294.	8392.	8568.	8326.	8720.	9315.	10181.	108646.8
ENERGY AV MW	14395.	13876.	13393.	11904.	11135.	11519.	11279.	11516.	11564.	11720.	12937.	13684.	12402.6
*L.F. %	78.5	79.2	78.8	77.3	77.0	75.5	74.1	75.9	76.1	78.0	76.4	74.6	76.8
1986													
20 MIN PEAK MW	18905.	18071.	17496.	15909.	14951.	15767.	15685.	15637.	15715.	15505.	17477.	18937.	16671.2
1 HOUR PEAK MW	18717.	17921.	17364.	15781.	14823.	15638.	15578.	15527.	15583.	15349.	17314.	18777.	16531.0
ENERGY GWH	10912.	9531.	10173.	8772.	8480.	8492.	8587.	8761.	8526.	8894.	9513.	10407.	111047.0
ENERGY AV MW	14666.	14183.	13674.	12184.	11398.	11794.	11541.	11775.	11842.	11954.	13212.	13988.	12676.6
*L.F. %	78.4	79.1	78.7	77.2	76.9	75.4	74.1	75.8	76.0	77.9	76.3	74.5	76.7
1987													
20 MIN PEAK MW	19445.	18580.	17995.	16348.	15413.	16233.	16158.	16100.	16152.	15924.	17933.	19468.	17145.7
1 HOUR PEAK MW	19252.	18428.	17862.	16216.	15284.	16102.	16048.	15987.	16018.	15766.	17767.	19304.	17002.8
ENERGY GWH	11225.	9804.	10467.	9021.	8746.	8742.	8850.	9022.	8766.	9139.	9768.	10701.	114252.3
ENERGY AV MW	15088.	14590.	14068.	12529.	11756.	12142.	11895.	12127.	12175.	12283.	13566.	14383.	13042.5
*L.F. %	78.4	79.2	78.8	77.3	76.9	75.4	74.1	75.9	76.0	77.9	76.4	74.5	76.7
1988													
20 MIN PEAK MW	19953.	19058.	18454.	16754.	15791.	16633.	16556.	16493.	16546.	16315.	18386.	20000.	17578.3
1 HOUR PEAK MW	19755.	18901.	18318.	16620.	15657.	16498.	16443.	16378.	16409.	16151.	18213.	19832.	17431.2
ENERGY GWH	11508.	10405.	10723.	9235.	8948.	8947.	9058.	9232.	8968.	9351.	10002.	10990.	117365.7
ENERGY AV MW	15468.	14950.	14413.	12826.	12027.	12426.	12175.	12409.	12456.	12568.	13891.	14771.	13361.3
*L.F. %	78.3	79.1	78.7	77.2	76.8	75.3	74.0	75.8	75.9	77.8	76.3	74.5	76.7
1989													
20 MIN PEAK MW	20506.	19583.	18960.	17202.	16213.	17077.	16998.	16937.	16985.	16750.	18886.	20510.	18050.6
1 HOUR PEAK MW	20302.	19422.	18820.	17064.	16076.	16939.	16882.	16820.	16844.	16582.	18710.	20338.	17899.9
ENERGY GWH	11830.	10326.	11019.	9484.	9188.	9187.	9304.	9484.	9210.	9601.	10274.	11263.	120172.3
ENERGY AV MW	15900.	15366.	14811.	13172.	12350.	12760.	12506.	12747.	12791.	12905.	14270.	15139.	13718.3
*L.F. %	78.3	79.1	78.7	77.2	76.8	75.3	74.1	75.8	75.9	77.8	76.3	74.4	76.6
1990													
20 MIN PEAK MW	21096.	20144.	19504.	17697.	16670.	17539.	17480.	17408.	17466.	17250.	19432.	21099.	18565.3
1 HOUR PEAK MW	20885.	19978.	19357.	17554.	16528.	17396.	17360.	17287.	17320.	17076.	19248.	20921.	18409.2
ENERGY GWH	12166.	10617.	11329.	9751.	9441.	9430.	9566.	9744.	9466.	9883.	10565.	11580.	123536.1
ENERGY AV MW	16352.	15799.	15227.	13543.	12690.	13097.	12857.	13097.	13147.	13283.	14674.	15565.	14102.3
*L.F. %	78.3	79.1	78.7	77.2	76.8	75.3	74.1	75.8	75.9	77.8	76.2	74.4	76.6
1991													
20 MIN PEAK MW	21637.	20660.	20005.	18152.	17098.	17990.	17929.	17856.	17914.	17694.	19931.	21641.	19042.3
1 HOUR PEAK MW	21422.	20491.	19854.	18006.	16952.	17843.	17806.	17731.	17766.	17515.	19742.	21458.	18882.2
ENERGY GWH	12478.	10891.	11624.	9994.	9685.	9673.	9816.	9998.	9707.	10137.	10830.	11877.	126709.9
ENERGY AV MW	16772.	16207.	15623.	13881.	13018.	13434.	13193.	13439.	13483.	13625.	15042.	15963.	14464.6
*L.F. %	78.3	79.1	78.7	77.1	76.8	75.3	74.1	75.8	75.9	77.8	76.2	74.4	76.6

* LOAD FACTOR BASED ON 1 HOUR PEAK

EAST SYSTEM ONTARIO PRIMARY DEMANDS
BASED ON THE LOAD FORECAST REPORT NO. 851209

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	AVERAGE OR TOTAL
1992													
20 MIN PEAK MW	22237.	21234.	20560.	18656.	17573.	18489.	18427.	18352.	18412.	18185.	20485.	22242.	19571.0
1 HOUR PEAK MW	22017.	21060.	20405.	18506.	17423.	18338.	18301.	18224.	18259.	18001.	20290.	22054.	19406.4
ENERGY GWH	12825.	11193.	11946.	10272.	9954.	9941.	10088.	10276.	9977.	10418.	11131.	12206.	130227.9
ENERGY AV MW	17238.	16657.	16057.	14266.	13379.	13807.	13559.	13812.	13857.	14003.	15459.	16407.	14866.2
*L.F. %	78.3	79.1	78.7	77.1	76.8	75.3	74.1	75.8	75.9	77.8	76.2	74.4	76.6
1993													
20 MIN PEAK MW	22921.	21887.	21193.	19230.	18114.	19058.	18994.	18916.	18978.	18744.	21115.	22926.	20173.2
1 HOUR PEAK MW	22694.	21708.	21033.	19075.	17959.	18903.	18864.	18784.	18821.	18555.	20914.	22733.	20003.6
ENERGY GWH	13219.	11538.	12314.	10588.	10260.	10247.	10399.	10592.	10284.	10739.	11473.	12582.	134235.6
ENERGY AV MW	17768.	17169.	16551.	14705.	13791.	14232.	13976.	14237.	14283.	14434.	15935.	16912.	15323.7
*L.F. %	78.3	79.1	78.7	77.1	76.8	75.3	74.1	75.8	75.9	77.8	76.2	74.4	76.6
1994													
20 MIN PEAK MW	23632.	22566.	21849.	19826.	18675.	19649.	19583.	19502.	19566.	19325.	21769.	23637.	20798.2
1 HOUR PEAK MW	23397.	22380.	21684.	19666.	18516.	19488.	19448.	19366.	19404.	19130.	21562.	23437.	20623.3
ENERGY GWH	13629.	11895.	12695.	10916.	10578.	10564.	10721.	10920.	10603.	11072.	11829.	12972.	138394.0
ENERGY AV MW	18318.	17701.	17064.	15161.	14218.	14673.	14409.	14678.	14726.	14881.	16429.	17435.	15798.4
*L.F. %	78.3	79.1	78.7	77.1	76.8	75.3	74.1	75.8	75.9	77.8	76.2	74.4	76.6
1995													
20 MIN PEAK MW	24367.	23268.	22530.	20443.	19256.	20260.	20192.	20109.	20175.	19927.	22447.	24373.	21445.7
1 HOUR PEAK MW	24126.	23077.	22359.	20279.	19092.	20095.	20054.	19969.	20008.	19725.	22234.	24167.	21265.4
ENERGY GWH	14053.	12265.	13091.	11256.	10908.	10893.	11054.	11260.	10933.	11416.	12197.	13376.	142703.0
ENERGY AV MW	18889.	18252.	17595.	15633.	14661.	15130.	14858.	15135.	15184.	15344.	16940.	17978.	16290.3
*L.F. %	78.3	79.1	78.7	77.1	76.8	75.3	74.1	75.8	75.9	77.8	76.2	74.4	76.6
1996													
20 MIN PEAK MW	24829.	23709.	22957.	20831.	19621.	20645.	20575.	20491.	20558.	20304.	22872.	24835.	21852.3
1 HOUR PEAK MW	24583.	23515.	22783.	20663.	19454.	20476.	20434.	20348.	20387.	20099.	22655.	24625.	21668.5
ENERGY GWH	14320.	12498.	13339.	11469.	11114.	11100.	11264.	11474.	11140.	11633.	12428.	13629.	145408.1
ENERGY AV MW	19247.	18593.	17929.	15929.	14939.	15417.	15140.	15422.	15472.	15635.	17261.	18319.	16599.1
*L.F. %	78.3	79.1	78.7	77.1	76.8	75.3	74.1	75.8	75.9	77.8	76.2	74.4	76.6
1997													
20 MIN PEAK MW	25430.	24283.	23512.	21335.	20096.	21144.	21073.	20987.	21055.	20796.	23426.	25436.	22381.1
1 HOUR PEAK MW	25178.	24084.	23335.	21163.	19925.	20971.	20928.	20840.	20881.	20585.	23203.	25221.	22192.9
ENERGY GWH	14666.	12800.	13662.	11747.	11383.	11368.	11537.	11751.	11409.	11914.	12729.	13959.	148927.0
ENERGY AV MW	19713.	19048.	18362.	16315.	15300.	15790.	15506.	15795.	15846.	16014.	17679.	18763.	17000.8
*L.F. %	78.3	79.1	78.7	77.1	76.8	75.3	74.1	75.8	75.9	77.8	76.2	74.4	76.6
1998													
20 MIN PEAK MW	26019.	24845.	24057.	21829.	20562.	21634.	21561.	21473.	21543.	21277.	23968.	26024.	22899.3
1 HOUR PEAK MW	25761.	24641.	23875.	21653.	20386.	21457.	21413.	21323.	21364.	21062.	23741.	25805.	22706.7
ENERGY GWH	15006.	13097.	13978.	12019.	11647.	11632.	11804.	12024.	11674.	12190.	13024.	14283.	152374.9
ENERGY AV MW	20169.	19489.	18788.	16693.	15655.	16155.	15865.	16161.	16213.	16384.	18088.	19197.	17394.4
*L.F. %	78.3	79.1	78.7	77.1	76.8	75.3	74.1	75.8	75.9	77.8	76.2	74.4	76.6

* LOAD FACTOR BASED ON 1 HOUR PEAK

EAST SYSTEM ONTARIO PRIMARY DEMANDS
BASED ON THE LOAD FORECAST REPORT NO. 851209

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	AVERAGE OR TOTAL
1999													
20 MIN PEAK MW	26661.	25459.	24651.	22368.	21069.	22168.	22093.	22003.	22075.	21803.	24560.	26667.	23464.8
1 HOUR PEAK MW	26397.	25250.	24464.	22188.	20890.	21987.	21942.	21849.	21892.	21582.	24327.	26442.	23267.5
ENERGY GWH	15376.	13420.	14323.	12315.	11935.	11919.	12095.	12321.	11962.	12491.	13345.	14635.	156138.2
ENERGY AV MW	20667.	19971.	19252.	17105.	16041.	16554.	16257.	16560.	16614.	16789.	18535.	19671.	17824.0
*L.F. %	78.3	79.1	78.7	77.1	76.8	75.3	74.1	75.8	75.9	77.8	76.2	74.4	76.6
2000													
20 MIN PEAK MW	27326.	26094.	25265.	22926.	21595.	22721.	22644.	22551.	22625.	22346.	25173.	27332.	24049.9
1 HOUR PEAK MW	27056.	25879.	25074.	22741.	21410.	22535.	22489.	22394.	22437.	22120.	24933.	27102.	23847.6
ENERGY GWH	15760.	13755.	14680.	12623.	12232.	12216.	12397.	12628.	12260.	12802.	13678.	15000.	160031.2
ENERGY AV MW	21183.	20469.	19732.	17531.	16441.	16967.	16662.	16973.	17028.	17208.	18997.	20162.	18268.4
*L.F. %	78.3	79.1	78.7	77.1	76.8	75.3	74.1	75.8	75.9	77.8	76.2	74.4	76.6
2001													
20 MIN PEAK MW	27937.	26677.	25830.	23438.	22077.	23229.	23151.	23056.	23131.	22846.	25735.	27943.	24587.5
1 HOUR PEAK MW	27660.	26458.	25635.	23249.	21889.	23039.	22992.	22895.	22939.	22615.	25491.	27707.	24380.8
ENERGY GWH	16112.	14062.	15008.	12905.	12506.	12489.	12674.	12910.	12534.	13089.	13984.	15335.	163608.8
ENERGY AV MW	21656.	20926.	20173.	17923.	16809.	17346.	17035.	17352.	17409.	17592.	19422.	20612.	18676.8
*L.F. %	78.3	79.1	78.7	77.1	76.8	75.3	74.1	75.8	75.9	77.8	76.2	74.4	76.6
2002													
20 MIN PEAK MW	28471.	27187.	26324.	23886.	22499.	23673.	23593.	23496.	23573.	23283.	26227.	28477.	25057.4
1 HOUR PEAK MW	28189.	26964.	26125.	23694.	22307.	23479.	23431.	23332.	23377.	23047.	25978.	28237.	24846.7
ENERGY GWH	16420.	14331.	15295.	13151.	12745.	12728.	12916.	13157.	12774.	13339.	14251.	15629.	166735.2
ENERGY AV MW	22070.	21326.	20558.	18266.	17130.	17678.	17360.	17684.	17741.	17928.	19793.	21006.	19033.7
*L.F. %	78.3	79.1	78.7	77.1	76.8	75.3	74.1	75.8	75.9	77.8	76.2	74.4	76.6
2003													
20 MIN PEAK MW	29038.	27728.	26848.	24362.	22947.	24144.	24063.	23964.	24042.	23746.	26749.	29044.	25556.2
1 HOUR PEAK MW	28750.	27500.	26645.	24165.	22751.	23946.	23898.	23797.	23843.	23506.	26495.	28799.	25341.3
ENERGY GWH	16747.	14616.	15600.	13413.	12998.	12981.	13173.	13419.	13028.	13604.	14535.	15940.	170054.4
ENERGY AV MW	22509.	21751.	20967.	18629.	17471.	18030.	17706.	18036.	18095.	18285.	20187.	21424.	19412.6
*L.F. %	78.3	79.1	78.7	77.1	76.8	75.3	74.1	75.8	75.9	77.8	76.2	74.4	76.6
2004													
20 MIN PEAK MW	29628.	28291.	27394.	24857.	23414.	24635.	24552.	24451.	24531.	24229.	27293.	29634.	26075.6
1 HOUR PEAK MW	29335.	28059.	27187.	24657.	23214.	24433.	24383.	24280.	24327.	23984.	27034.	29384.	25856.4
ENERGY GWH	17087.	14913.	15917.	13686.	13263.	13245.	13441.	13691.	13293.	13881.	14830.	16263.	173511.1
ENERGY AV MW	22967.	22193.	21394.	19008.	17826.	18396.	18066.	18402.	18462.	18657.	20598.	21860.	19807.2
*L.F. %	78.3	79.1	78.7	77.1	76.8	75.3	74.1	75.8	75.9	77.8	76.2	74.4	76.6
2005													
20 MIN PEAK MW	30240.	28876.	27959.	25370.	23897.	25143.	25059.	24956.	25037.	24729.	27856.	30246.	26614.0
1 HOUR PEAK MW	29940.	28639.	27748.	25166.	23693.	24938.	24887.	24782.	24830.	24479.	27592.	29991.	26390.2
ENERGY GWH	17440.	15221.	16245.	13968.	13536.	13519.	13718.	13974.	13567.	14167.	15136.	16599.	177093.0
ENERGY AV MW	23441.	22651.	21835.	19400.	18194.	18776.	18439.	18782.	18843.	19042.	21023.	22311.	20216.1
*L.F. %	78.3	79.1	78.7	77.1	76.8	75.3	74.1	75.8	75.9	77.8	76.2	74.4	76.6

* LOAD FACTOR BASED ON 1 HOUR PEAK

EAST SYSTEM ONTARIO PRIMARY DEMANDS
BASED ON THE LOAD FORECAST REPORT NO. 851209

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	AVERAGE OR TOTAL
2006													
20 MIN PEAK MW	30866.	29474.	28538.	25896.	24392.	25664.	25578.	25473.	25556.	25241.	28433.	30873.	27165.3
1 HOUR PEAK MW	30560.	29232.	28323.	25687.	24184.	25454.	25402.	25295.	25344.	24986.	28163.	30612.	26936.9
ENERGY GWH	17801.	15537.	16582.	14258.	13817.	13799.	14003.	14264.	13848.	14461.	15450.	16943.	180761.7
ENERGY AV MW	23926.	23120.	22288.	19802.	18571.	19165.	18821.	19171.	19234.	19437.	21458.	22773.	20634.9
*L.F. %	78.3	79.1	78.7	77.1	76.8	75.3	74.1	75.8	75.9	77.8	76.2	74.4	76.6
2007													
20 MIN PEAK MW	31447.	30029.	29076.	26383.	24851.	26147.	26059.	25952.	26037.	25716.	28969.	31454.	27676.7
1 HOUR PEAK MW	31136.	29782.	28856.	26170.	24639.	25933.	25880.	25771.	25821.	25456.	28694.	31189.	27444.0
ENERGY GWH	18136.	15829.	16894.	14526.	14077.	14058.	14266.	14532.	14109.	14733.	15741.	17263.	184165.0
ENERGY AV MW	24377.	23555.	22707.	20175.	18920.	19526.	19175.	19532.	19596.	19803.	21862.	23202.	21023.4
*L.F. %	78.3	79.1	78.7	77.1	76.8	75.3	74.1	75.8	75.9	77.8	76.2	74.4	76.6
2008													
20 MIN PEAK MW	32007.	30563.	29593.	26852.	25293.	26612.	26523.	26414.	26500.	26174.	29484.	32014.	28169.1
1 HOUR PEAK MW	31690.	30312.	29369.	26636.	25077.	26395.	26341.	26230.	26281.	25909.	29204.	31743.	27932.2
ENERGY GWH	18459.	16111.	17195.	14785.	14327.	14309.	14520.	14791.	14360.	14995.	16021.	17569.	187441.2
ENERGY AV MW	24811.	23974.	23111.	20534.	19257.	19873.	19516.	19880.	19945.	20155.	22251.	23614.	21397.4
*L.F. %	78.3	79.1	78.7	77.1	76.8	75.3	74.1	75.8	75.9	77.8	76.2	74.4	76.6
2009													
20 MIN PEAK MW	32556.	31088.	30101.	27314.	25728.	27070.	26978.	26868.	26956.	26623.	29990.	32563.	28652.9
1 HOUR PEAK MW	32234.	30833.	29874.	27094.	25508.	26848.	26793.	26680.	26732.	26354.	29706.	32289.	28412.0
ENERGY GWH	18776.	16388.	17490.	15038.	14573.	14554.	14769.	15045.	14607.	15253.	16296.	17871.	190660.5
ENERGY AV MW	25237.	24386.	23508.	20887.	19588.	20214.	19851.	20221.	20287.	20501.	22633.	24021.	21764.9
*L.F. %	78.3	79.1	78.7	77.1	76.8	75.3	74.1	75.8	75.9	77.8	76.2	74.4	76.6
2010													
20 MIN PEAK MW	33097.	31604.	30601.	27767.	26155.	27519.	27426.	27313.	27403.	27065.	30488.	33104.	29128.3
1 HOUR PEAK MW	32769.	31344.	30369.	27543.	25931.	27294.	27238.	27123.	27176.	26791.	30199.	32824.	28883.4
ENERGY GWH	19088.	16659.	17780.	15288.	14815.	14796.	15015.	15294.	14849.	15506.	16566.	18167.	193823.8
ENERGY AV MW	25655.	24791.	23898.	21233.	19913.	20550.	20181.	20557.	20624.	20841.	23009.	24419.	22126.0
*L.F. %	78.3	79.1	78.7	77.1	76.8	75.3	74.1	75.8	75.9	77.8	76.2	74.4	76.6
2011													
20 MIN PEAK MW	33642.	32125.	31105.	28225.	26586.	27972.	27878.	27764.	27855.	27511.	30991.	33649.	29608.5
1 HOUR PEAK MW	33309.	31861.	30870.	27997.	26359.	27744.	27687.	27570.	27623.	27233.	30696.	33366.	29359.6
ENERGY GWH	19402.	16934.	18073.	15540.	15059.	15040.	15262.	15546.	15094.	15762.	16839.	18467.	197019.4
ENERGY AV MW	26078.	25199.	24292.	21583.	20241.	20888.	20513.	20896.	20964.	21185.	23388.	24822.	22490.8
*L.F. %	78.3	79.1	78.7	77.1	76.8	75.3	74.1	75.8	75.9	77.8	76.2	74.4	76.6
2012													
20 MIN PEAK MW	34160.	32619.	31583.	28659.	26995.	28402.	28307.	28191.	28283.	27934.	31467.	34167.	30063.8
1 HOUR PEAK MW	33821.	32351.	31345.	28428.	26764.	28170.	28113.	27994.	28048.	27652.	31168.	33878.	29811.0
ENERGY GWH	19701.	17194.	18351.	15779.	15291.	15271.	15497.	15785.	15326.	16004.	17098.	18751.	200048.6
ENERGY AV MW	26479.	25587.	24666.	21915.	20552.	21210.	20829.	21217.	21286.	21511.	23748.	25203.	22836.6
*L.F. %	78.3	79.1	78.7	77.1	76.8	75.3	74.1	75.8	75.9	77.8	76.2	74.4	76.6

* LOAD FACTOR BASED ON 1 HOUR PEAK

WEST SYSTEM ONTARIO PRIMARY DEMANDS
BASED ON THE LOAD FORECAST REPORT NO. 851209

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	AVERAGE OR TOTAL
1985													
20 MIN PEAK MW	940.	918.	878.	832.	825.	781.	767.	780.	856.	870.	917.	971.	861.2
1 HOUR PEAK MW	934.	913.	874.	827.	821.	778.	764.	776.	852.	866.	913.	967.	857.1
ENERGY GWH	595.	526.	569.	516.	516.	485.	478.	501.	517.	565.	577.	615.	6459.6
ENERGY AV MW	800.	782.	765.	716.	693.	674.	642.	674.	718.	759.	801.	826.	737.4
*L.F. %	85.7	85.7	87.5	86.6	84.4	86.6	84.0	86.9	84.3	87.6	87.7	85.4	86.0
1986													
20 MIN PEAK MW	995.	974.	927.	863.	856.	828.	812.	826.	870.	876.	922.	975.	893.7
1 HOUR PEAK MW	989.	970.	923.	858.	851.	824.	808.	821.	865.	872.	918.	969.	889.1
ENERGY GWH	629.	566.	597.	531.	535.	511.	507.	529.	519.	562.	574.	610.	6671.6
ENERGY AV MW	846.	842.	803.	737.	719.	710.	682.	711.	721.	756.	797.	820.	761.6
*L.F. %	85.5	86.8	87.0	85.9	84.5	86.2	84.4	86.6	83.4	86.7	86.8	84.6	85.7
1987													
20 MIN PEAK MW	995.	974.	926.	878.	875.	845.	829.	842.	888.	896.	941.	997.	907.0
1 HOUR PEAK MW	989.	970.	922.	873.	870.	841.	826.	838.	883.	891.	937.	992.	902.6
ENERGY GWH	632.	569.	599.	544.	551.	525.	522.	543.	534.	578.	589.	629.	6813.5
ENERGY AV MW	849.	846.	805.	755.	740.	729.	701.	730.	741.	777.	818.	846.	777.8
*L.F. %	85.8	87.2	87.3	86.5	85.1	86.7	84.9	87.1	83.9	87.2	87.3	85.3	86.2
1988													
20 MIN PEAK MW	1019.	1000.	953.	904.	903.	873.	859.	874.	923.	931.	980.	1041.	938.3
1 HOUR PEAK MW	1013.	995.	948.	899.	898.	870.	856.	870.	918.	927.	975.	1035.	933.7
ENERGY GWH	647.	603.	616.	560.	568.	542.	540.	564.	554.	601.	613.	657.	7065.0
ENERGY AV MW	869.	867.	828.	778.	763.	753.	726.	758.	769.	808.	852.	883.	804.3
*L.F. %	85.8	87.1	87.3	86.5	85.0	86.6	84.8	87.1	83.8	87.2	87.4	85.3	86.1
1989													
20 MIN PEAK MW	1062.	1040.	989.	937.	935.	902.	885.	898.	946.	953.	1000.	1058.	967.2
1 HOUR PEAK MW	1056.	1035.	984.	933.	930.	898.	881.	894.	941.	949.	997.	1053.	962.6
ENERGY GWH	674.	606.	641.	580.	589.	561.	557.	580.	568.	616.	626.	668.	7264.7
ENERGY AV MW	906.	902.	861.	806.	791.	779.	748.	779.	789.	828.	870.	893.	829.3
*L.F. %	85.8	87.1	87.5	86.4	85.1	86.7	84.9	87.1	83.8	87.2	87.3	85.3	86.2
1990													
20 MIN PEAK MW	1078.	1054.	1003.	949.	947.	912.	894.	909.	957.	964.	1013.	1072.	979.4
1 HOUR PEAK MW	1072.	1050.	999.	944.	941.	909.	891.	904.	951.	959.	1008.	1066.	974.4
ENERGY GWH	684.	615.	648.	588.	594.	567.	562.	586.	574.	622.	634.	676.	7347.0
ENERGY AV MW	919.	915.	871.	816.	799.	787.	755.	787.	797.	836.	880.	908.	838.7
*L.F. %	85.7	87.1	87.2	86.4	84.9	86.6	84.7	87.1	83.8	87.2	87.3	85.2	86.1
1991													
20 MIN PEAK MW	1106.	1081.	1029.	973.	971.	935.	917.	932.	982.	989.	1039.	1099.	1004.5
1 HOUR PEAK MW	1099.	1077.	1025.	968.	965.	932.	914.	927.	975.	984.	1034.	1093.	999.4
ENERGY GWH	702.	631.	665.	602.	610.	581.	576.	600.	588.	638.	650.	693.	7535.4
ENERGY AV MW	943.	939.	893.	836.	819.	807.	775.	807.	816.	858.	902.	931.	860.2
*L.F. %	85.8	87.2	87.2	86.4	84.9	86.6	84.8	87.0	83.7	87.2	87.3	85.2	86.1

* LOAD FACTOR BASED ON 1 HOUR PEAK

WEST SYSTEM ONTARIO PRIMARY DEMANDS
BASED ON THE LOAD FORECAST REPORT NO. 851209

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	AVERAGE OR TOTAL
1992													
20 MIN PEAK MW	1136.	1111.	1057.	1000.	998.	961.	943.	958.	1009.	1016.	1068.	1130.	1032.4
1 HOUR PEAK MW	1130.	1107.	1053.	995.	992.	958.	939.	953.	1002.	1011.	1063.	1124.	1027.2
ENERGY GWH	721.	649.	683.	619.	626.	597.	592.	617.	604.	656.	668.	712.	7744.7
ENERGY AV MW	969.	965.	918.	860.	842.	830.	796.	829.	839.	881.	927.	958.	884.1
*L.F. %	85.8	87.2	87.2	86.4	84.9	86.6	84.8	87.0	83.7	87.2	87.3	85.2	86.1
1993													
20 MIN PEAK MW	1171.	1145.	1090.	1031.	1029.	991.	972.	988.	1040.	1047.	1101.	1165.	1064.2
1 HOUR PEAK MW	1165.	1141.	1086.	1026.	1022.	988.	968.	982.	1033.	1042.	1095.	1158.	1058.8
ENERGY GWH	743.	668.	704.	638.	646.	616.	611.	636.	623.	676.	688.	734.	7983.0
ENERGY AV MW	999.	995.	946.	886.	868.	855.	821.	854.	865.	909.	956.	987.	911.3
*L.F. %	85.8	87.2	87.2	86.4	84.9	86.6	84.8	87.0	83.7	87.2	87.3	85.2	86.1
1994													
20 MIN PEAK MW	1208.	1181.	1124.	1063.	1061.	1022.	1002.	1018.	1072.	1080.	1135.	1201.	1097.1
1 HOUR PEAK MW	1201.	1176.	1119.	1057.	1054.	1018.	998.	1013.	1065.	1074.	1129.	1194.	1091.5
ENERGY GWH	766.	689.	726.	658.	666.	635.	630.	655.	642.	697.	710.	757.	8230.0
ENERGY AV MW	1030.	1026.	976.	914.	895.	882.	846.	881.	892.	937.	986.	1017.	939.5
*L.F. %	85.8	87.2	87.2	86.4	84.9	86.6	84.8	87.0	83.7	87.2	87.3	85.2	86.1
1995													
20 MIN PEAK MW	1245.	1217.	1159.	1096.	1094.	1053.	1033.	1050.	1105.	1113.	1170.	1238.	1131.2
1 HOUR PEAK MW	1238.	1213.	1154.	1090.	1087.	1050.	1029.	1044.	1098.	1107.	1164.	1231.	1125.4
ENERGY GWH	790.	711.	749.	678.	686.	655.	649.	676.	662.	718.	732.	780.	8485.8
ENERGY AV MW	1062.	1057.	1006.	942.	923.	909.	873.	908.	919.	966.	1016.	1049.	963.7
*L.F. %	85.8	87.2	87.2	86.4	84.9	86.6	84.8	87.0	83.7	87.2	87.3	85.2	86.1
1996													
20 MIN PEAK MW	1269.	1241.	1180.	1117.	1115.	1073.	1052.	1070.	1126.	1135.	1192.	1262.	1152.7
1 HOUR PEAK MW	1262.	1236.	1176.	1111.	1107.	1070.	1048.	1064.	1119.	1128.	1186.	1255.	1146.8
ENERGY GWH	805.	724.	763.	691.	699.	667.	661.	689.	674.	732.	746.	796.	8647.0
ENERGY AV MW	1082.	1077.	1025.	960.	940.	926.	889.	925.	937.	984.	1036.	1069.	987.1
*L.F. %	85.8	87.2	87.2	86.4	84.9	86.6	84.8	87.0	83.7	87.2	87.3	85.2	86.1
1997													
20 MIN PEAK MW	1300.	1271.	1209.	1144.	1142.	1099.	1078.	1096.	1154.	1162.	1221.	1292.	1180.6
1 HOUR PEAK MW	1292.	1266.	1204.	1138.	1134.	1096.	1074.	1090.	1146.	1156.	1215.	1285.	1174.6
ENERGY GWH	825.	742.	781.	708.	716.	683.	677.	705.	691.	750.	764.	815.	8856.4
ENERGY AV MW	1109.	1104.	1050.	983.	963.	949.	911.	948.	959.	1008.	1061.	1095.	1011.0
*L.F. %	85.8	87.2	87.2	86.4	84.9	86.6	84.8	87.0	83.7	87.2	87.3	85.2	86.1
1998													
20 MIN PEAK MW	1330.	1300.	1237.	1171.	1168.	1125.	1103.	1121.	1180.	1189.	1249.	1322.	1207.9
1 HOUR PEAK MW	1322.	1295.	1232.	1164.	1160.	1121.	1099.	1115.	1173.	1183.	1243.	1315.	1201.8
ENERGY GWH	844.	759.	799.	724.	733.	699.	693.	722.	707.	767.	781.	834.	9061.3
ENERGY AV MW	1134.	1129.	1074.	1006.	985.	971.	932.	970.	982.	1031.	1035.	1120.	1034.4
*L.F. %	85.8	87.2	87.2	86.4	84.9	86.6	84.8	87.0	83.7	87.2	87.3	85.2	86.1

* LOAD FACTOR BASED ON 1 HOUR PEAK

WEST SYSTEM ONTARIO PRIMARY DEMANDS
BASED ON THE LOAD FORECAST REPORT NO. 851209

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	AVERAGE OR TOTAL
1999													
20 MIN PEAK MW	1362.	1332.	1268.	1199.	1197.	1153.	1130.	1149.	1209.	1218.	1280.	1355.	1237.7
1 HOUR PEAK MW	1355.	1327.	1262.	1193.	1189.	1149.	1126.	1142.	1202.	1212.	1274.	1347.	1231.4
ENERGY GWH	865.	777.	819.	742.	751.	716.	710.	739.	724.	786.	801.	854.	9284.7
ENERGY AV MW	1162.	1157.	1101.	1031.	1009.	995.	955.	994.	1006.	1057.	1112.	1148.	1059.9
*L.F. %	85.8	87.2	87.2	86.4	84.9	86.6	84.8	87.0	83.7	87.2	87.3	85.2	86.1
2000													
20 MIN PEAK MW	1396.	1365.	1299.	1229.	1227.	1181.	1158.	1178.	1240.	1249.	1312.	1388.	1268.5
1 HOUR PEAK MW	1388.	1360.	1294.	1223.	1219.	1177.	1154.	1171.	1232.	1242.	1305.	1381.	1262.1
ENERGY GWH	886.	797.	839.	761.	770.	734.	728.	758.	742.	806.	821.	875.	9516.0
ENERGY AV MW	1191.	1186.	1128.	1056.	1035.	1019.	978.	1018.	1031.	1083.	1140.	1177.	1086.3
*L.F. %	85.8	87.2	87.2	86.4	84.9	86.6	84.8	87.0	83.7	87.2	87.3	85.2	86.1
2001													
20 MIN PEAK MW	1428.	1396.	1328.	1257.	1254.	1208.	1184.	1204.	1267.	1276.	1342.	1420.	1296.9
1 HOUR PEAK MW	1419.	1390.	1323.	1250.	1246.	1203.	1180.	1197.	1259.	1270.	1335.	1412.	1290.3
ENERGY GWH	906.	815.	858.	778.	787.	750.	744.	775.	759.	824.	839.	895.	9728.9
ENERGY AV MW	1218.	1212.	1153.	1080.	1058.	1042.	1000.	1041.	1054.	1107.	1165.	1203.	1110.6
*L.F. %	85.8	87.2	87.2	86.4	84.9	86.6	84.8	87.0	83.7	87.2	87.3	85.2	86.1
2002													
20 MIN PEAK MW	1455.	1422.	1354.	1281.	1278.	1231.	1207.	1227.	1291.	1301.	1367.	1447.	1321.7
1 HOUR PEAK MW	1446.	1417.	1348.	1274.	1270.	1227.	1202.	1220.	1283.	1294.	1360.	1438.	1314.9
ENERGY GWH	923.	830.	875.	792.	802.	765.	759.	790.	773.	839.	855.	912.	9914.6
ENERGY AV MW	1241.	1235.	1175.	1101.	1078.	1062.	1019.	1061.	1074.	1128.	1187.	1225.	1131.8
*L.F. %	85.8	87.2	87.2	86.4	84.9	86.6	84.8	87.0	83.7	87.2	87.3	85.2	86.1
2003													
20 MIN PEAK MW	1484.	1451.	1380.	1306.	1303.	1255.	1231.	1251.	1317.	1327.	1394.	1475.	1347.9
1 HOUR PEAK MW	1475.	1445.	1375.	1299.	1295.	1251.	1226.	1244.	1309.	1320.	1387.	1467.	1341.1
ENERGY GWH	942.	847.	892.	808.	818.	780.	774.	805.	789.	856.	872.	930.	10111.7
ENERGY AV MW	1266.	1260.	1199.	1122.	1099.	1083.	1040.	1082.	1095.	1151.	1211.	1250.	1154.3
*L.F. %	85.8	87.2	87.2	86.4	84.9	86.6	84.8	87.0	83.7	87.2	87.3	85.2	86.1
2004													
20 MIN PEAK MW	1514.	1480.	1409.	1333.	1330.	1281.	1256.	1277.	1344.	1354.	1423.	1505.	1375.4
1 HOUR PEAK MW	1505.	1474.	1403.	1326.	1321.	1276.	1251.	1269.	1335.	1347.	1415.	1497.	1368.4
ENERGY GWH	961.	864.	910.	825.	835.	796.	789.	822.	805.	874.	890.	949.	10317.5
ENERGY AV MW	1291.	1286.	1223.	1145.	1122.	1105.	1061.	1104.	1118.	1174.	1236.	1275.	1177.8
*L.F. %	85.8	87.2	87.2	86.4	84.9	86.6	84.8	87.0	83.7	87.2	87.3	85.2	86.1
2005													
20 MIN PEAK MW	1545.	1511.	1438.	1360.	1358.	1307.	1282.	1303.	1372.	1382.	1452.	1536.	1403.8
1 HOUR PEAK MW	1536.	1505.	1432.	1353.	1349.	1303.	1277.	1295.	1363.	1374.	1445.	1528.	1396.6
ENERGY GWH	981.	882.	929.	842.	852.	812.	806.	839.	821.	892.	908.	969.	10530.4
ENERGY AV MW	1318.	1312.	1248.	1169.	1145.	1128.	1083.	1127.	1141.	1198.	1261.	1302.	1202.1
*L.F. %	85.8	87.2	87.2	86.4	84.9	86.6	84.8	87.0	83.7	87.2	87.3	85.2	86.1

* LOAD FACTOR BASED ON 1 HOUR PEAK

WEST SYSTEM ONTARIO PRIMARY DEMANDS
BASED ON THE LOAD FORECAST REPORT NO. 851209

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	AVERAGE OR TOTAL
2006													
20 MIN PEAK MW	1577.	1542.	1467.	1389.	1386.	1334.	1308.	1330.	1400.	1410.	1482.	1568.	1432.8
1 HOUR PEAK MW	1568.	1536.	1461.	1381.	1376.	1330.	1303.	1322.	1391.	1403.	1474.	1560.	1425.5
ENERGY GWH	1001.	900.	948.	859.	869.	829.	822.	856.	838.	910.	927.	989.	10748.5
ENERGY AV MW	1345.	1339.	1274.	1193.	1169.	1151.	1105.	1150.	1164.	1223.	1287.	1329.	1227.0
*L.F. %	85.8	87.2	87.2	86.4	84.9	86.6	84.8	87.0	83.7	87.2	87.3	85.2	86.1
2007													
20 MIN PEAK MW	1607.	1571.	1495.	1415.	1412.	1359.	1333.	1355.	1426.	1437.	1510.	1598.	1459.8
1 HOUR PEAK MW	1598.	1565.	1489.	1407.	1402.	1355.	1328.	1347.	1417.	1429.	1502.	1589.	1452.4
ENERGY GWH	1020.	917.	966.	875.	886.	845.	838.	872.	854.	927.	944.	1007.	10950.9
ENERGY AV MW	1371.	1365.	1298.	1216.	1191.	1173.	1126.	1172.	1186.	1246.	1311.	1354.	1250.1
*L.F. %	85.8	87.2	87.2	86.4	84.9	86.6	84.8	87.0	83.7	87.2	87.3	85.2	86.1
2008													
20 MIN PEAK MW	1635.	1599.	1522.	1440.	1437.	1384.	1356.	1379.	1452.	1462.	1537.	1626.	1485.7
1 HOUR PEAK MW	1626.	1593.	1515.	1432.	1427.	1379.	1351.	1371.	1443.	1455.	1529.	1617.	1478.2
ENERGY GWH	1038.	933.	983.	891.	902.	860.	853.	888.	869.	944.	961.	1025.	11145.3
ENERGY AV MW	1395.	1389.	1321.	1237.	1212.	1194.	1146.	1193.	1207.	1268.	1335.	1378.	1272.3
*L.F. %	85.8	87.2	87.2	86.4	84.9	86.6	84.8	87.0	83.7	87.2	87.3	85.2	86.1
2009													
20 MIN PEAK MW	1664.	1627.	1548.	1465.	1461.	1407.	1380.	1403.	1477.	1488.	1563.	1654.	1511.3
1 HOUR PEAK MW	1654.	1620.	1541.	1457.	1452.	1402.	1375.	1395.	1467.	1480.	1555.	1645.	1503.6
ENERGY GWH	1056.	949.	1000.	906.	917.	874.	867.	903.	884.	960.	978.	1043.	11337.2
ENERGY AV MW	1419.	1413.	1344.	1258.	1233.	1215.	1166.	1213.	1228.	1290.	1358.	1401.	1294.2
*L.F. %	85.8	87.2	87.2	86.4	84.9	86.6	84.8	87.0	83.7	87.2	87.3	85.2	86.1
2010													
20 MIN PEAK MW	1691.	1654.	1573.	1489.	1486.	1431.	1403.	1426.	1501.	1512.	1589.	1682.	1536.4
1 HOUR PEAK MW	1682.	1647.	1567.	1481.	1476.	1426.	1398.	1418.	1492.	1504.	1581.	1672.	1528.6
ENERGY GWH	1073.	965.	1017.	921.	932.	889.	882.	918.	899.	976.	994.	1060.	11525.5
ENERGY AV MW	1443.	1436.	1366.	1279.	1253.	1235.	1185.	1234.	1249.	1312.	1380.	1424.	1315.7
*L.F. %	85.8	87.2	87.2	86.4	84.9	86.6	84.8	87.0	83.7	87.2	87.3	85.2	86.1
2011													
20 MIN PEAK MW	1719.	1681.	1600.	1514.	1510.	1454.	1426.	1450.	1526.	1537.	1616.	1709.	1561.8
1 HOUR PEAK MW	1709.	1674.	1593.	1505.	1500.	1449.	1421.	1441.	1516.	1529.	1607.	1700.	1553.8
ENERGY GWH	1091.	981.	1033.	936.	948.	904.	896.	933.	914.	992.	1010.	1078.	11715.6
ENERGY AV MW	1466.	1460.	1389.	1300.	1274.	1255.	1205.	1254.	1269.	1333.	1403.	1448.	1337.4
*L.F. %	85.8	87.2	87.2	86.4	84.9	86.6	84.8	87.0	83.7	87.2	87.3	85.2	86.1
2012													
20 MIN PEAK MW	1746.	1707.	1624.	1537.	1533.	1477.	1448.	1472.	1550.	1561.	1640.	1736.	1585.8
1 HOUR PEAK MW	1736.	1700.	1617.	1528.	1523.	1472.	1442.	1463.	1540.	1553.	1632.	1726.	1577.7
ENERGY GWH	1108.	996.	1049.	951.	962.	918.	910.	947.	928.	1007.	1026.	1094.	11896.1
ENERGY AV MW	1489.	1482.	1410.	1321.	1293.	1274.	1223.	1273.	1289.	1354.	1425.	1471.	1358.0
*L.F. %	85.8	87.2	87.2	86.4	84.9	86.6	84.8	87.0	83.7	87.2	87.3	85.2	86.1

* LOAD FACTOR BASED ON 1 HOUR PEAK

3.0 FORECAST PERFORMANCE

3.0.1 Forecasts Reviewed

The current report analyzes the performance of Load Forecast #851209 until the end of 1985.

3.0.2 Introduction to Forecast Performance Review

The forecast quantities which have operational significance to Ontario Hydro are those which trigger costs, revenues and planning activities in the physical and financial domains. In broad terms, physical planning and operations activities require chronological detail at the system level; transmission planning requires more geographical disaggregation and coarser load profiles. Financial planning activities are mainly concerned with annual figures by types of activity, but with high interest rates and the study of time of use pricing, a requirement for greater chronological detail is developing

From a forecasting point of view, the analysis of forecast error is an important diagnostic tool. because the nature of the error provides insights to its source. Diagnosis is primarily a matter of forming a judgment as to whether a given error is transient (and can be ignored) or permanent (and requires remedial action).

Relative error generally increases with:

(1) detail of the forecast quantity, whether the detail is chronological or geographical, and

(2) the length of the forecast period.

For example. the forecast error of a given monthly peak in Cobourg may be due to:

(1) weather
(2) a strike
(3) the wrong seasonal pattern
(4) performance of the local economy
(5) the wrong underlying growth
(6) known changes since the forecast was made.

Patterns of error may emerge as forecast errors are accumulated over time and over space. As these patterns are identified, they can be applied in revisions to the forecast. Certain kinds of error, such as those due to weather effects, can be explained but not predicted, because it is climate, as opposed to weather, that is predictable. Weather is only predictable within limits on a probability basis, by assuming constant climate and stable variability. Prediction of the economy presents all of the problems associated with weather aggravated by the longer duration of bursts of economic weather and the unpredictability of economic climate.

3.1 Performance of Load Forecast 851209

3.1.1 Primary Demands

Monthly detail for the performance of Load Forecast No. 851209 is shown below for system 1-hour primary peak demand and monthly energy

All-System Primary Demands

	Peak - GW						Energy - TWh					
	Actual		%	Forecast	% Devi-		Actual		%	Forecast	% Devi-	
	1984	1985	Growth	851209	ation*		1984	1985	Growth	851209	ation*	
Jan.	18.8	19.3	2.5	19.2	0.1		11.2	11.4	2.3	11.3	1.0	
Feb.	17.9	18.7	4.2	18.4	1.6		9.7	10.1	3.6	9.9	2.3	
Mar.	17.8	18.7	5.2	17.8	4.9		10.5	10.4	-1.6	10.5	-1.4	
Apr.	15.5	16.7	7.5	16.2	3.0		8.8	9.2	4.2	9.1	1.1	
May.	14.8	14.8	.0	15.2	-2.8		8.7	8.8	1.2	8.8	0.1	
Jun.	15.5	14.8	-4.7	16.0	-7.4		8.6	8.4	-1.4	8.8	-3.9	
Jul.	15.1	15.5	2.8	15.9	-2.7		8.5	8.9	4.0	8.9	-0.1	
Aug.	15.8	16.0	1.4	15.9	0.7		9.1	9.0	-0.6	9.1	-0.4	
Sept	14.7	16.1	9.5	16.0	0.9		8.3	8.9	7.3	8.8	1.2	
Oct.	15.4	16.1	4.6	15.9	1.5		8.9	9.3	4.3	9.3	0.4	
Nov.	17.5	18.6	6.3	17.8	4.4		9.7	10.2	5.1	9.9	2.9	
Dec.	18.0	20.4	13.6	19.3	5.9		10.2	11.4	11.7	10.8	5.6	
Avg.	16.4	17.1	4.5	17.0	1.0	Tot	112.3	116.0	3.3	115.1	0.8	

*Per cent deviation from forecast.

The high deviation in the month of March relates to the unusual weather conditions experienced on the day of the peak during a very heavy snowstorm with very high winds and extremely poor illumination. but with slightly higher than normal temperature. The lower-than-forecast peaks in May, July and especially June are probably due to consistently cool weather which may have affected air-conditioning load. The high peak and energy figures for November and December may be the result of the stronger-than-expected performance of the Ontario economy.

3.1.2 Diversity and Losses

System customers are billed on their maximum monthly peak load, whenever in the month it may occur (the non-coincident peak load). This quantity will be equal to or greater than that customer's load at the time of system peak (the coincident load). Diversity is defined as the coincident load minus the non-coincident peak load. It is therefore zero or negative, because diversity reduces system peak demand. It is possible to measure diversity for individual system customers.

System peak losses are the difference between system peak and the sum of customers coincident loads, and system energy losses are the difference between energy sent out by the system and that received by the customers. It is not possible to allocate losses to individual customers. Losses are positive because they increase system demand.

For peak demands, the term net diversity and loss refers to the sum of the two.

Relationship Between System Demands and Customer Loads - 1985

The performance of Forecast 851209 on an average monthly basis was as follows:

	Actual		Increase		Forecast	Deviation from Forecast	
Average Peak MW*	1984	1985	MW	%	#851209	MW	%
System Demand	16397	17137	740	4.5	16965	172	1.0
Customer Loads	16843	17560	717	4.3	17432	128	0.7
Net Diversity & Loss	-446	-423	23	-5.2	-467	44	10.4
% Customer Loads	-2.6	-2.4			-2.7		
Energy TWh							
System Demand	112.3	116.0	3.7	3.3	115.1	.9	0.8
Customer Loads	107.8	111.2	3.4	3.6	110.6	.6	0.5
Loss	4.5	4.8	.3	6.7	4.5	.3	6.7
% Customer Loads	4.2	4.3			4.1		

*1 Hour

Although energy losses in percent of customers energy were very close to forecast, 4.3% compared to 4.1%, the principal reason for the forecast deviation in peak net diversity and loss was an underestimation of the losses.

3.1.3 Unallocated Load

Since the forecast is the sum of the Regional estimates and the unallocated load that is eventually decided upon. the "actual" unallocated load is that which would have reduced the forecast error to zero.

The average monthly results for 1985 are:

Unallocated Load	Peak MW	Energy Av.MW
Forecast	43	27
"Actual"	173	98
Error (Actual-Forecast)	130	71

3.1.4 Detail of Customer Loads

(1) By Class

The monthly average results in terms of growth from 1984 and deviation from forecast are shown below:

Sum of Customers' Loads - 1985
(By Class)

1985 Average		Increase Over 1984 MW	Increase Over 1984 %	Deviation From F/C No. 851209 MW	Deviation From F/C No. 851209 %	Unallocated Load Forecast MW
Total	- Peak	719	4.3	130	0.8	43
	- Energy	418	3.4	71	0.6	27
Municipal	- Peak	544	4.7	126	1.1	21
	- Energy	335	4.0	61	0.7	15
Retail	- Peak	116	4.4	30	1.1	62
	- Energy	77	4.5	29	1.7	41
Direct	- Peak	60	2.2	-25	-0.9	-40
	- Energy	6	0.2	-19	-0.9	-28

A comparison of growth rates of peak and energy provides an insight into trends in load factor. Since peak grew at a faster rate than energy in 1985, the average monthly load factors decreased.

(2) By Region

Sum of Customers' Loads - 1984
(By Regions)

1985 Average		Increase Over 1984 MW	Increase Over 1984 %	Deviation From F/C No. 851209 MW	Deviation From F/C No. 851209 %	Unallocated Load Forecast MW
Total	- Peak	719	4.3	130	0.8	43
	- Energy	418	3.4	71	0.6	27
Central	- Peak	521	5.4	77	1.0	22
	- Energy	256	4.5	35	0.6	16
Western	- Peak	105	3.0	-14	-0.4	28
	- Energy	75	2.9	0	0	16
Eastern	- Peak	112	5.0	47	2.0	-4
	- Energy	67	4.3	29	1.8	-3
Geo.Bay	- Peak	10	1.0	20	1.9	0
	- Energy	-9	1.2	15	2.3	0
N.Eastern	- Peak	43	2.9	-4	-0.3	-2
	- Energy	16	1.5	-5	-0.4	-2
N.Western	- Peak	30	3.4	6	0.6	0
	- Energy	12	1.7	-4	-0.6	0

Reasons for varying growth rates over 1984 and deviation from forecast are diverse, but may generally be related to economic conditions in 1985.

Further chronological and regional class detail are available in the attached tables.

COMPARISON OF ACTUAL AND ESTIMATED ONTARIO PRIMARY 1-HOUR PEAK DEMANDS
BASED ON THE 1985 SHORT-TERM LOAD FORECAST
FOR THE PERIOD FROM JAN 1985 TO DEC 1985
% ERROR=(ACTUAL-FORECAST)/FORECAST*100.0

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TO DATE
NIAGARA 25 HZ													
1985 ACT.	93	86	91	89	85	89	83	85	77	79	83	82	
EST.	88	88	89	85	85	85	88	88	88	99	99	99	
	5.68	-2.27	2.25	4.71	.00	4.71	-5.68	-3.41	-12.50	-20.20	-16.16	-17.17	-5.46
NORTHEAST 25 HZ													
1985 ACT.	42	35	36	37	34	32	30	35	34	33	34	36	
EST.	39	40	40	40	40	39	39	40	39	39	39	39	
	7.69	-12.50	-10.00	-7.50	-15.00	-17.95	-23.08	-12.50	-12.82	-15.38	-12.82	-7.69	-11.63
EAST SYSTEM 60 HZ													
1985 ACT.	18286	17723	17781	15834	13966	13955	14686	15197	15375	15157	17556	19352	
EST.	18252	17418	16896	15303	14373	15167	15117	15070	15106	14920	16823	18234	
	.19	1.75	5.24	3.47	-2.83	-7.99	-2.85	.84	1.78	1.59	4.36	6.13	1.14
EAST SYSTEM TOTAL													
1985 ACT.	18385	17814	17867	15932	14063	14060	14790	15299	15462	15243	17627	19439	
EST.	18349	17516	16995	15398	14468	15261	15214	15168	15203	15028	16931	18342	
	.20	1.70	5.13	3.47	-2.80	-7.87	-2.79	.86	1.70	1.43	4.11	5.98	1.09
WEST SYSTEM													
1985 ACT.	932	952	868	813	795	767	768	755	870	858	978	1008	
EST.	934	913	874	827	821	778	764	776	852	866	913	967	
	-.21	4.27	-.69	-1.69	-3.17	-1.41	.52	-2.71	2.11	-.92	7.12	4.24	.77
ALL SYSTEM													
1985 ACT.	19257	18673	18711	16676	14822	14792	15507	16007	16135	16090	18579	20393	
EST.	19232	18376	17832	16191	15243	15975	15939	15898	15994	15853	17790	19259	
	.13	1.62	4.93	3.00	-2.76	-7.41	-2.71	.69	.88	1.49	4.44	5.89	1.01

COMPARISON OF ACTUAL AND ESTIMATED ONTARIO PRIMARY ENERGY DEMANDS
BASED ON THE 1985 SHORT-TERM LOAD FORECAST
FOR THE PERIOD FROM JAN 1985 TO DEC 1985
% ERROR=(ACTUAL-FORECAST)/FORECAST*100.0

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TO DATE
NIAGARA 25 HZ													
1985 ACT.	68	67	67	63	71	62	53	56	51	52	58	59	
EST.	65	66	66	62	62	62	64	64	61	73	72	70	
	4.62	1.52	1.52	1.61	14.52	.00	-17.19	-12.50	-16.39	-28.77	-19.44	-15.71	-7.69
NORTHEAST 25 HZ													
1985 ACT.	30	28	26	27	25	26	25	25	27	27	24	25	
EST.	28	28	28	28	28	26	26	26	26	26	28	28	
	7.14	.00	-7.14	-3.57	-10.71	.00	-3.85	-3.85	3.85	3.85	-14.29	-10.71	-3.40
EAST SYSTEM 60 HZ													
1985 ACT.	14435	14107	13102	11959	11068	10948	11210	11414	11668	11692	13242	14408	
EST.	14292	13782	13299	11814	11045	11431	11189	11426	11477	11621	12837	13586	
	.93	2.36	-1.48	1.23	.21	-4.23	.19	-.11	1.66	.61	3.15	6.05	.97
EAST SYSTEM TOTAL													
1985 ACT.	14533	14202	13195	12049	11164	11036	11288	11495	11746	11771	13324	14492	
EST.	14395	13876	13393	11904	11135	11519	11279	11516	11564	11720	12937	13684	
	.96	2.35	-1.48	1.22	.26	-4.19	.08	-.18	1.57	.44	2.99	5.90	.91
WEST SYSTEM													
1985 ACT.	813	790	758	708	677	679	626	645	678	756	818	832	
EST.	800	782	765	716	693	674	642	674	718	759	801	826	
	1.62	1.02	-.92	-1.12	-2.31	.74	-2.49	-4.30	-5.57	-.40	2.12	.73	-.81
ALL SYSTEM													
1985 ACT.	15346	14992	13953	12757	11841	11715	11914	12140	12424	12527	14142	15324	
EST.	15195	14658	14157	12620	11828	12193	11921	12190	12281	12479	13738	14510	
	.99	2.28	-1.44	1.09	.11	-3.92	-.06	-.41	1.16	.38	2.94	5.61	.82

COMPARISON OF ACTUAL AND ESTIMATED CUSTOMERS LOADS BASED ON THE 1985 LOAD FORECAST

TOTAL SYSTEM

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	AVERAGE
MUNIC	PEAK	MW											
1984	12958.	12277.	12260.	10742.	10318.	11342.	11143.	11569.	10496.	10529.	12001.	12564.	11517.
1985	13465.	12929.	12790.	11692.	10707.	10520.	11425.	11588.	11903.	11171.	12679.	13862.	12061.
% GR.	3.92	5.31	4.33	8.84	3.77	-7.25	2.54	.16	13.40	6.10	5.66	10.33	4.73
FCST	13371.	12689.	12352.	11177.	10624.	11830.	11723.	11462.	11588.	10997.	12284.	13119.	11935.
% DEV	.71	1.89	3.55	4.61	.78	-11.07	-2.54	1.09	2.72	1.58	3.22	5.67	1.06
	ENERGY	AV MW											
1984	9803.	9090.	9253.	7907.	7586.	7904.	7735.	8178.	7555.	7802.	8805.	8942.	8330.
1985	10110.	9874.	9098.	8355.	7772.	7736.	8071.	8056.	8174.	8195.	9246.	9968.	8715.
% GR.	3.13	8.62	-1.68	5.66	2.44	-2.14	4.35	-1.49	8.20	5.03	5.01	11.47	4.00
FCST	9994.	9634.	9291.	8203.	7724.	8209.	8090.	8114.	8099.	8114.	9010.	9430.	8654.
% DEV	1.16	2.49	-2.07	1.85	.62	-5.77	-.24	-.71	.93	.99	2.62	5.70	.71
RETAIL	PEAK	MW											
1984	3417.	3149.	3202.	2406.	2281.	2013.	2010.	2131.	2192.	2429.	2861.	3241.	2611.
1985	3464.	3300.	3262.	2736.	2248.	2052.	2040.	2104.	2220.	2609.	2996.	3688.	2727.
% GR.	1.40	4.79	1.87	13.70	-1.45	1.93	1.47	-1.28	1.26	7.38	4.73	13.79	4.42
FCST	3475.	3231.	3057.	2616.	2376.	2093.	2115.	2199.	2323.	2569.	2904.	3403.	2697.
% DEV	-.32	2.15	6.73	4.57	-5.39	-1.95	-3.53	-4.32	-4.42	1.56	3.17	8.39	1.11
	ENERGY	AV MW											
1984	2380.	2040.	2114.	1583.	1441.	1309.	1327.	1386.	1382.	1481.	1857.	2111.	1701.
1985	2437.	2324.	2024.	1686.	1388.	1332.	1350.	1397.	1409.	1567.	1977.	2476.	1778.
% GR.	2.39	13.92	-4.26	6.52	-3.62	1.77	1.75	.79	1.96	5.80	6.45	17.26	4.54
FCST	2369.	2198.	2025.	1680.	1460.	1345.	1373.	1428.	1459.	1587.	1874.	2215.	1749.
% DEV	2.86	5.74	-.05	.39	-4.88	-.94	-1.69	-2.20	-3.38	-1.23	5.45	11.77	1.66
DIRECT	PEAK	MW											
1984	2717.	2765.	2766.	2728.	2720.	2752.	2550.	2607.	2719.	2730.	2808.	2720.	2715.
1985	2681.	2694.	2790.	2799.	2772.	2723.	2632.	2724.	2845.	2820.	2911.	2903.	2775.
% GR.	-1.31	-2.56	.87	2.58	1.92	-1.06	3.24	4.47	4.62	3.29	3.66	6.76	2.19
FCST	2737.	2755.	2804.	2805.	2740.	2752.	2701.	2788.	2850.	2880.	2900.	2895.	2800.
% DEV	-2.02	-2.20	-.50	-.22	1.18	-1.05	-2.54	-2.30	-.18	-2.07	.36	.29	-.93
	ENERGY	AV MW											
1984	2217.	2283.	2282.	2260.	2225.	2240.	1902.	2116.	2162.	2262.	2322.	2110.	2197.
1985	2197.	2222.	2274.	2192.	2170.	2198.	1940.	2150.	2245.	2274.	2343.	2232.	2203.
% GR.	-.90	-2.70	-.32	-3.01	-2.48	-1.91	2.02	1.60	3.86	.55	.91	5.75	.23
FCST	2221.	2258.	2293.	2263.	2172.	2167.	1969.	2167.	2233.	2304.	2346.	2276.	2222.
% DEV	-1.07	-1.62	-.81	-3.14	-.07	1.41	-1.49	-.80	.53	-1.27	-.13	-1.96	-.87
TOTAL	PEAK	MW											
1984	19092.	18191.	18228.	15876.	15320.	16107.	15702.	16308.	15408.	15688.	17670.	18526.	16843.
1985	19611.	18923.	18843.	17226.	15727.	15295.	16097.	16415.	16967.	16600.	18587.	20454.	17562.
% GR.	2.72	4.02	3.37	8.50	2.66	-5.04	2.51	.66	10.12	5.81	5.19	10.41	4.27
FCST	19583.	18675.	18213.	16598.	15741.	16674.	16539.	16449.	16760.	16446.	18089.	19417.	17432.
% DEV	.15	1.33	3.46	3.79	-.08	-8.27	-2.67	-.20	1.23	.94	2.75	5.34	.75
	ENERGY	AV MW											
1984	14400.	13414.	13649.	11750.	11252.	11453.	10963.	11680.	11099.	11545.	12983.	13163.	12278.
1985	14744.	14420.	13396.	12233.	11330.	11265.	11361.	11603.	11829.	12036.	13566.	14675.	12696.
% GR.	2.39	7.50	-1.85	4.11	.69	-1.64	3.63	-.66	6.57	4.25	4.49	11.48	3.40
FCST	14583.	14090.	13608.	12147.	11355.	11721.	11433.	11709.	11791.	12004.	13231.	13921.	12625.
% DEV	1.10	2.34	-1.56	.72	-.22	-3.89	-.63	-.91	.32	.27	2.53	5.41	.56

COMPARISON OF ACTUAL AND ESTIMATED CUSTOMERS LOADS BASED ON THE 1985 LOAD FORECAST
EAST SYSTEM

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	AVERAGE
MUNIC	PEAK	MW											
1984	12655.	12001.	11994.	10518.	10101.	11148.	10951.	11374.	10284.	10295.	11743.	12274.	11278.
1985	13167.	12630.	12539.	11468.	10499.	10324.	11235.	11401.	11688.	10950.	12385.	13545.	11819.
% GR.	4.05	5.24	4.55	9.04	3.95	-7.39	2.60	.24	13.66	6.37	5.47	10.35	4.80
FCST	13072.	12410.	12097.	10947.	10412.	11631.	11530.	11268.	11378.	10765.	12025.	12823.	11696.
% DEV	.72	1.78	3.66	4.77	.84	-11.24	-2.56	1.19	2.73	1.72	2.99	5.63	1.05
	ENERGY	AV MW											
1984	9582.	8904.	9069.	7753.	7432.	7758.	7594.	8038.	7411.	7643.	8618.	8732.	8211.
1985	9888.	9664.	8928.	8196.	7625.	7596.	7939.	7931.	8035.	8033.	9043.	9736.	8546.
% GR.	3.19	8.54	-1.55	5.73	2.60	-2.10	4.55	-1.33	8.43	5.10	4.94	11.49	4.08
FCST	9776.	9438.	9111.	8043.	7573.	8063.	7952.	7976.	7951.	7947.	8822.	9214.	8484.
% DEV	1.15	2.39	-2.01	1.90	.69	-5.80	-.17	-.56	1.05	1.08	2.51	5.67	.73
RETAIL	PEAK	MW											
1984	3257.	3005.	3061.	2291.	2168.	1916.	1917.	2031.	2076.	2300.	2712.	3067.	2483.
1985	3293.	3133.	3120.	2611.	2133.	1935.	1933.	1995.	2093.	2474.	2826.	3504.	2587.
% GR.	1.10	4.24	1.93	13.98	-1.65	1.00	.82	-1.77	.86	7.58	4.22	14.23	4.19
FCST	3310.	3076.	2909.	2493.	2257.	1988.	2016.	2095.	2207.	2440.	2762.	3244.	2566.
% DEV	-.53	1.85	7.24	4.72	-5.51	-2.63	-4.13	-4.74	-5.13	1.40	2.32	8.01	.82
	ENERGY	AV MW											
1984	2263.	1941.	2016.	1509.	1368.	1243.	1265.	1322.	1310.	1400.	1754.	1989.	1615.
1985	2313.	2204.	1928.	1604.	1314.	1258.	1281.	1325.	1333.	1479.	1864.	2344.	1685.
% GR.	2.22	13.56	-4.34	6.28	-3.97	1.18	1.30	.22	1.80	5.64	6.29	17.84	4.33
FCST	2250.	2090.	1923.	1600.	1385.	1277.	1308.	1359.	1387.	1503.	1778.	2103.	1662.
% DEV	2.80	5.44	.29	.23	-5.11	-1.51	-2.09	-2.53	-3.84	-1.60	4.84	11.44	1.39
DIRECT	PEAK	MW											
1984	2238.	2289.	2275.	2228.	2199.	2252.	2069.	2112.	2229.	2227.	2305.	2234.	2221.
1985	2188.	2199.	2285.	2300.	2263.	2226.	2128.	2245.	2324.	2285.	2371.	2375.	2266.
% GR.	-2.22	-3.93	.42	3.20	2.95	-1.15	2.85	6.34	4.26	2.62	2.85	6.34	2.00
FCST	2238.	2252.	2295.	2295.	2227.	2255.	2203.	2285.	2316.	2342.	2358.	2351.	2285.
% DEV	-2.24	-2.37	-.45	.21	1.61	-1.29	-3.43	-1.71	.38	-2.41	.55	1.05	-.83
	ENERGY	AV MW											
1984	1812.	1875.	1860.	1823.	1772.	1792.	1496.	1680.	1765.	1812.	1881.	1709.	1772.
1985	1775.	1797.	1826.	1764.	1744.	1770.	1543.	1744.	1832.	1817.	1875.	1803.	1773.
% GR.	-2.09	-4.19	-1.81	-3.26	-1.55	-1.23	3.15	3.78	3.76	.27	-.32	5.48	.07
FCST	1802.	1827.	1857.	1824.	1738.	1735.	1563.	1738.	1781.	1840.	1875.	1828.	1783.
% DEV	-1.50	-1.68	-1.62	-3.33	.36	2.00	-1.33	.34	2.85	-1.26	.05	-1.37	-.56
TOTAL	PEAK	MW											
1984	18149.	17295.	17330.	15037.	14468.	15316.	14937.	15517.	14589.	14821.	16759.	17575.	15983.
1985	18647.	17962.	17944.	16379.	14895.	14486.	15296.	15642.	16106.	15709.	17582.	19424.	16673.
% GR.	2.74	3.86	3.54	8.93	2.95	-5.42	2.40	.81	10.40	5.99	4.91	10.52	4.32
FCST	18620.	17737.	17301.	15735.	14896.	15874.	15750.	15647.	15900.	15547.	17145.	18418.	16547.
% DEV	.14	1.26	3.72	4.09	-.00	-8.75	-2.88	-.03	1.30	1.05	2.55	5.46	.76
	ENERGY	AV MW											
1984	13658.	12720.	12944.	11085.	10572.	10794.	10354.	11040.	10486.	10856.	12253.	12430.	11598.
1985	13976.	13664.	12683.	11564.	10683.	10624.	10763.	11000.	11200.	11330.	12783.	13883.	12004.
% GR.	2.33	7.43	-2.02	4.32	1.06	-1.57	3.95	-.37	6.81	4.37	4.33	11.68	3.50
FCST	13828.	13355.	12891.	11468.	10696.	11076.	10824.	11073.	11119.	11291.	12475.	13145.	11929.
% DEV	1.07	2.31	-1.61	.84	-.11	-4.08	-.57	-.66	.73	.34	2.47	5.61	.63

COMPARISON OF ACTUAL AND ESTIMATED CUSTOMERS LOADS BASED ON THE 1985 LOAD FORECAST
JUL WEST AUG SYSTEM

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	AVERAGE
MUNIC	PEAK	MW											
1984	303.	276.	266.	224.	218.	194.	192.	196.	213.	234.	258.	290.	239.
1985	298.	299.	251.	224.	208.	196.	190.	186.	215.	221.	294.	318.	242.
% GR.	-1.54	8.23	-5.60	-.40	-4.59	.96	-.96	-4.79	.86	-5.47	14.02	9.37	1.23
FCST	299.	280.	256.	230.	213.	199.	193.	194.	210.	232.	259.	295.	238.
% DEV	-.06	6.76	-1.83	-2.83	-2.39	-1.14	-1.56	-4.20	2.01	-4.69	13.62	7.46	1.39
	ENERGY	AV MW											
1984	221.	186.	185.	154.	155.	146.	141.	140.	144.	159.	187.	210.	169.
1985	222.	210.	170.	158.	146.	140.	132.	126.	139.	161.	203.	232.	170.
% GR.	.59	12.67	-7.95	2.53	-5.34	-4.25	-6.46	-10.59	-3.69	1.54	8.52	10.47	.38
FCST	218.	196.	179.	160.	151.	146.	138.	138.	148.	167.	188.	216.	170.
% DEV	1.89	7.34	-5.31	-1.05	-2.89	-4.12	-4.41	-9.06	-5.83	-3.18	7.85	7.16	-.33
RETAIL	PEAK	MW											
1984	160.	144.	142.	116.	113.	97.	93.	100.	117.	130.	149.	174.	128.
1985	172.	168.	143.	125.	116.	116.	107.	109.	127.	135.	170.	185.	139.
% GR.	7.50	16.30	.55	8.05	2.47	20.32	14.79	8.68	8.45	3.67	14.12	6.05	8.91
FCST	165.	155.	148.	123.	120.	105.	98.	104.	116.	129.	142.	159.	130.
% DEV	4.05	8.06	-3.49	1.48	-3.25	10.91	8.80	4.26	9.07	4.47	19.72	16.13	6.81
	ENERGY	AV MW											
1984	117.	99.	98.	74.	72.	65.	62.	64.	72.	81.	103.	122.	86.
1985	124.	120.	96.	82.	75.	74.	69.	72.	76.	88.	112.	132.	93.
% GR.	5.71	21.09	-2.58	11.51	2.97	13.10	10.92	12.63	4.90	8.63	9.20	7.91	8.44
FCST	119.	108.	102.	80.	75.	67.	65.	69.	72.	83.	96.	112.	87.
% DEV	4.07	11.48	-6.33	3.53	-.79	10.09	6.27	4.27	5.46	5.53	16.80	17.98	6.76
DIRECT	PEAK	MW											
1984	479.	476.	491.	500.	521.	500.	481.	495.	490.	503.	503.	486.	494.
1985	493.	495.	505.	499.	509.	497.	505.	478.	520.	535.	540.	528.	509.
% GR.	2.93	4.00	2.96	-.15	-2.39	-.67	4.92	-3.46	6.25	6.27	7.34	8.69	3.02
FCST	498.	502.	509.	510.	512.	497.	498.	503.	534.	538.	542.	544.	516.
% DEV	-1.00	-1.44	-.71	-2.16	-.70	.01	1.39	-4.96	-2.63	-.57	-.46	-2.98	-1.36
	ENERGY	AV MW											
1984	404.	408.	421.	437.	454.	449.	406.	436.	396.	450.	440.	401.	425.
1985	422.	425.	448.	429.	426.	428.	398.	406.	414.	458.	467.	429.	429.
% GR.	4.43	4.14	6.26	-1.98	-6.10	-4.63	-2.14	-6.80	4.33	1.71	6.15	6.90	.87
FCST	419.	431.	436.	439.	434.	432.	406.	430.	453.	464.	471.	448.	438.
% DEV	.77	-1.35	2.65	-2.38	-1.79	-.97	-2.10	-5.42	-8.60	-1.31	-.83	-4.35	-2.15
TOTAL	PEAK	MW											
1984	942.	896.	898.	840.	852.	791.	766.	791.	819.	867.	910.	950.	860.
1985	964.	962.	899.	847.	832.	809.	801.	773.	861.	891.	1005.	1030.	890.
% GR.	2.27	7.28	.05	.91	-2.31	2.30	4.65	-2.26	5.17	2.71	10.34	8.41	3.40
FCST	962.	937.	912.	863.	845.	800.	789.	802.	861.	899.	944.	999.	884.
% DEV	.16	2.58	-1.47	-1.82	-1.49	1.15	1.59	-3.58	.08	-.91	6.45	3.15	.58
	ENERGY	AV MW											
1984	742.	694.	704.	666.	681.	660.	609.	640.	613.	690.	730.	733.	680.
1985	768.	755.	713.	669.	647.	641.	598.	603.	629.	707.	783.	792.	692.
% GR.	3.49	8.86	1.31	.56	-4.96	-2.79	-1.81	-5.70	2.51	2.48	7.18	8.09	1.71
FCST	755.	734.	718.	679.	660.	645.	609.	636.	672.	713.	756.	776.	696.
% DEV	1.61	2.85	-.62	-1.37	-1.93	-.53	-1.73	-5.16	-6.48	-.95	3.58	2.07	-.59

LISTING OF FORECAST PEAK % ERROR BY CLASS AND REGION
BASED ON THE 1985 LOAD FORECAST
FOR THE PERIOD FROM JAN 1985 TO DEC 1985
% ERROR=(ACTUAL-FORECAST)/FORECAST*100.0

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	AVER PEAK
MUNIC													
CENT.	.20	.95	2.52	4.95	1.45	-11.27	-2.92	1.66	3.69	1.80	2.97	5.38	.92
WEST.	2.08	1.70	1.69	3.15	.31	-13.78	-2.36	.15	3.16	1.30	1.30	6.60	.42
EAST.	2.09	6.44	9.50	5.26	.95	-10.44	-1.33	1.37	-2.42	3.23	6.33	5.16	2.50
GEOG.	-.32	1.64	7.92	6.37	-5.11	-3.78	-.63	-1.24	.20	.77	1.42	5.20	1.32
N.E.	-.22	.57	10.61	6.95	-2.52	-1.92	-1.96	-2.14	-.70	-3.23	1.95	7.98	1.75
N.W.	-.06	6.76	-1.83	-2.83	-2.39	-1.14	-1.56	-4.20	2.01	-4.69	13.62	7.46	1.39
EAST SYSTEM	.72	1.78	3.66	4.77	.84	-11.24	-2.56	1.19	2.73	1.72	2.99	5.63	1.05
ALL SYSTEMS	.71	1.89	3.55	4.61	.78	-11.07	-2.54	1.09	2.72	1.58	3.22	5.67	1.06
DIRECT													
CENT.	-7.37	-6.51	1.61	-21.28	-17.27	1.77	.83	7.74	1.90	-.92	2.22	11.19	-2.12
WEST.	-3.54	-3.60	1.24	3.52	5.19	-.54	-5.52	1.56	4.78	-1.11	-.09	3.52	.47
EAST.	-.40	-2.11	-2.39	-3.10	-3.45	-3.40	-3.21	-1.09	-1.23	-4.18	-3.42	-4.26	-2.70
GEOG.	-5.46	-1.91	-2.17	-6.79	40.55	-7.64	-7.32	-6.46	-32.99	-29.85	-6.11	-5.65	-7.32
N.E.	-.81	-.93	-1.54	1.47	-.69	-1.08	-1.19	-6.13	-.48	-.54	3.05	-.02	-.71
N.W.	-1.00	-1.44	-.71	-2.16	-.70	.01	1.39	-4.96	-2.63	-.57	-.46	-2.98	-1.36
EAST SYSTEM	-2.24	-2.37	-.45	.21	1.61	-1.29	-3.43	-1.71	.38	-2.41	.55	1.05	-.83
ALL SYSTEMS	-2.02	-2.20	-.50	-.22	1.18	-1.05	-2.54	-2.30	-.18	-2.07	.36	.29	-.93
AREAS													
CENT.	-.02	3.11	5.85	5.37	-5.81	-1.57	-2.16	-3.78	-3.41	4.11	5.29	9.30	2.03
WEST.	.75	-.92	2.92	-1.32	-11.25	-11.30	-10.12	-12.50	-9.06	-5.52	-8.43	7.54	-4.40
EAST.	1.18	5.12	10.82	4.90	-4.71	1.52	-1.99	-.78	-4.27	4.03	7.98	8.50	3.35
GEOG.	-1.51	2.56	11.01	10.06	2.52	3.58	-.54	2.01	-2.27	5.60	5.30	8.71	4.13
N.E.	-4.55	-2.00	4.67	6.54	-8.10	-2.50	-3.36	-5.51	-4.96	-.53	2.81	5.45	-.63
N.W.	4.05	8.06	-3.49	1.48	-3.25	10.91	8.80	4.26	9.07	4.47	19.72	16.13	6.81
EAST SYSTEM	-.53	1.85	7.24	4.72	-5.51	-2.63	-4.13	-4.74	-5.13	1.40	2.32	8.01	.82
ALL SYSTEMS	-.32	2.15	6.73	4.57	-5.39	-1.95	-3.53	-4.32	-4.42	1.56	3.17	8.39	1.11
TOTAL													
CENT.	.11	1.02	2.73	4.59	.76	-10.69	-2.83	1.51	3.33	1.89	3.10	5.71	.95
WEST.	.56	-.02	1.79	2.48	-.13	-10.01	-4.35	-1.56	1.60	-.51	-.77	6.05	-.39
EAST.	1.55	5.06	8.47	3.99	-1.27	-6.61	-1.77	.47	-2.70	2.33	5.51	5.07	2.04
GEOG.	-1.29	1.83	8.61	6.90	1.63	-1.01	-1.32	-.35	-4.35	.36	2.60	6.20	1.93
N.E.	-1.76	-.94	2.36	3.61	-2.82	-1.54	-1.81	-5.39	-1.56	-.99	2.78	3.07	-.26
N.W.	.16	2.58	-1.47	-1.82	-1.49	1.15	1.59	-3.58	.08	-.91	6.45	3.15	.58
EAST SYSTEM	.14	1.26	3.72	4.09	-.00	-8.75	-2.88	-.03	1.30	1.05	2.55	5.46	.77
ALL SYSTEMS	.15	1.33	3.46	3.79	-.08	-8.27	-2.67	-.20	1.23	.94	2.75	5.34	.77

LISTING OF FORECAST ENERGY % ERROR BY CLASS AND REGION
BASED ON THE 1985 LOAD FORECAST
FOR THE PERIOD FROM JAN 1985 TO DEC 1985
% ERROR=(ACTUAL-FORECAST)/FORECAST*100.0

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
MUNIC													
CENT.	.04	1.65	-2.61	1.68	1.00	-5.98	-.34	-.36	1.26	1.18	2.42	5.30	.46
WEST.	1.75	3.08	-1.32	.68	-.40	-6.84	-.49	-2.46	1.97	1.35	1.78	5.44	.43
EAST.	5.17	5.14	-.70	3.63	1.87	-4.91	.21	1.39	-1.31	.48	4.09	7.05	2.13
GEOG.	2.24	3.84	-.75	3.44	-1.50	-1.55	4.50	-.61	1.88	1.76	2.30	6.93	2.03
N.E.	3.86	1.67	.80	6.89	-2.25	-1.12	-.44	-.28	-2.78	-1.96	2.82	7.64	1.70
N.W.	1.89	7.34	-5.31	-1.05	-2.89	-4.12	-4.41	-9.06	-5.83	-3.18	7.85	7.16	-.33
EAST SYSTEM	1.15	2.39	-2.01	1.90	.69	-5.80	-.17	-.56	1.05	1.08	2.51	5.67	.73
ALL SYSTEMS	1.16	2.49	-2.07	1.85	.62	-5.77	-.24	-.71	.93	.99	2.62	5.70	.71
DIRECT													
CENT.	12.96	12.70	4.71	-12.51	-3.06	2.94	-22.70	41.34	24.35	24.58	32.03	28.16	11.43
WEST.	-2.51	-3.97	-2.51	.04	3.70	2.24	-2.91	3.78	7.48	-2.74	-1.71	-3.06	-.19
EAST.	-4.48	1.03	1.47	-1.48	-.47	1.52	-5.50	-.72	-.46	-2.43	-3.04	-2.75	-1.44
GEOG.	1.55	2.48	-5.69	-17.47	-10.86	4.87	-2.59	-2.01	-32.76	-28.40	-2.64	-.98	-7.88
N.E.	-.77	-1.65	-1.76	-4.98	-1.83	1.48	5.40	-5.27	1.38	1.35	.58	-1.40	-.80
N.W.	.77	-1.35	2.65	-2.38	-1.79	-.97	-2.10	-5.42	-8.60	-1.31	-.83	-4.35	-2.15
EAST SYSTEM	-1.50	-1.68	-1.62	-3.33	.36	2.00	-1.33	.34	2.85	-1.26	.05	-1.37	-.56
ALL SYSTEMS	-1.07	-1.62	-.81	-3.14	-.07	1.41	-1.49	-.80	.53	-1.27	-.13	-1.96	-.87
AREA3													
CENT.	3.05	4.75	-2.59	-2.54	-7.98	-.84	-1.40	-2.58	-3.65	-1.28	7.43	12.76	1.21
WEST.	1.25	6.66	-.09	-4.62	-3.72	-6.76	-5.06	-7.13	-4.94	-4.60	-1.80	9.36	-1.36
EAST.	5.92	4.38	.70	3.37	-4.68	.41	-.74	.04	-2.79	.55	7.69	13.27	3.12
GEOG.	3.44	9.27	5.51	3.63	-3.60	4.80	1.12	4.66	-1.13	1.41	9.06	13.49	4.93
N.E.	-.89	1.74	-2.45	2.39	-6.43	-3.06	-3.34	-5.92	-6.61	-3.67	3.19	7.56	-.84
N.W.	4.07	11.48	-6.33	3.53	-.79	10.09	6.27	4.27	5.46	5.53	16.80	17.98	6.76
EAST SYSTEM	2.80	5.44	.29	.23	-5.11	-1.51	-2.09	-2.53	-3.84	-1.60	4.84	11.44	1.39
ALL SYSTEMS	2.86	5.74	-.05	.39	-4.88	-.94	-1.69	-2.20	-3.38	-1.23	5.45	11.77	1.66
TOTAL													
CENT.	.30	1.90	-2.55	1.31	.54	-5.69	-.61	-.12	1.30	1.33	2.97	5.93	.60
WEST.	.62	1.89	-1.44	-.33	.36	-4.21	-1.85	-1.44	2.43	-.76	.25	3.89	-.02
EAST.	4.24	4.41	-.05	2.77	-.11	-2.67	-.88	.74	-1.49	.01	3.94	7.50	1.85
GEOG.	2.77	6.27	1.62	1.09	-3.26	1.90	2.06	1.42	-4.05	-2.07	4.74	9.38	2.26
N.E.	.07	-.19	-1.48	-1.59	-2.86	.17	2.45	-4.67	-.81	-.24	1.56	2.55	-.39
N.W.	1.61	2.85	-.62	-1.37	-1.93	-.53	-1.73	-5.16	-6.48	-.95	3.58	2.07	-.59
EAST SYSTEM	1.07	2.31	-1.61	.84	-.11	-4.08	-.57	-.66	.73	.34	2.47	5.61	.61
ALL SYSTEMS	1.10	2.34	-1.56	.72	-.22	-3.89	-.63	-.91	.32	.27	2.53	5.41	.60

COMPARISON OF 1985 ACTUAL AND 1985 FORECAST OF CUSTOMERS LOADS

	DECEMBER PEAK-MW			AVERAGE PEAK-MW			ANNUAL ENERGY-AV MW		
	ACTUAL	FOR*	FOR**	ACTUAL	FOR*	FOR**	ACTUAL	FOR*	FOR**
MUNICIPAL									
CENTRAL	8541.0	8104.8	8104.8	7611.2	7517.7	7541.5	5567.1	5525.1	5541.8
WESTERN	2340.7	2195.8	2195.8	2092.6	2080.6	2084.0	1493.6	1485.2	1487.2
EASTERN	1728 0	1643.1	1643.1	1396.2	1368.0	1362.2	984.6	968.3	964.1
GEORGIAN BAY	558.1	530.5	530.5	445.5	439.7	439.7	305.1	299.0	299.0
NORTHEASTERN	377.0	349.2	349.2	273.8	269.1	269.1	195.3	192.1	192.1
NORTHWESTERN	317.5	295.5	295.5	241.6	238.3	238.3	169.7	170.2	170.2
SUBTOTAL	13862.3	13118.9	13118.9	12061.0	11913.4	11934.8	8715.5	8639.8	8654.4
RETAIL									
CENTRAL	634.3	580.3	580.3	462.3	445.2	453.1	296.6	288.2	293.1
WESTERN	762.1	668.7	708.7	582.3	556.7	609.2	404.8	375.1	410.4
EASTERN	894.8	824.7	824.7	650.7	627.8	629.6	407.7	394.4	395.4
GEORGIAN BAY	692.4	637.0	637.0	506.4	486.3	486.3	318.7	303.7	303.7
NORTHEASTERN	520.1	493.2	493.2	385.7	388.1	388.1	257.1	259.3	259.3
NORTHWESTERN	184.6	158.9	158.9	139.2	130.3	130.3	93.0	87.2	87.2
SUBTOTAL	3688.3	3362.8	3402.8	2726.7	2634.5	2696.7	1778.0	1707.8	1749.1
DIRECT									
CENTRAL	117.0	125.7	105.2	105.1	117.2	107.4	60.3	59.3	54.1
WESTERN	931.8	935.5	900.1	911.1	934.9	906.8	719.2	742.2	720.5
EASTERN	306.1	319.7	319.7	299.9	308.3	308.3	232.7	236.1	236.1
GEORGIAN BAY	85.2	90.2	90.2	81.0	87.4	87.4	67.6	73.4	73.4
NORTHEASTERN	935.3	943.5	935.5	868.8	877.3	875.0	693.7	700.9	699.3
NORTHWESTERN	528.1	544.3	544.3	508.7	515.7	515.7	429.1	438.5	438.5
SUBTOTAL	2903.5	2959.0	2895.1	2774.5	2840.8	2800.5	2202.5	2250.4	2221.9
SYSTEM TOTAL	20454.0	19440.7	19416.8	17562.2	17388.7	17431.9	12696.0	12597.9	12625.3

* EXCLUDES UNALLOCATED
** INCLUDES UNALLOCATED

FORECAST ERROR IN PERCENT FOR 1985 BASED ON THE 1985 FORECAST

% ERROR=(ACTUAL-FORECAST)/FORECAST X 100

	DECEMBER PEAK		AVERAGE PEAK		ANNUAL ENERGY	
	FOR*	FOR**	FOR*	FOR**	FOR*	FOR**
MUNICIPAL						
CENTRAL	5.4	5.4	1.2	.9	.8	.5
WESTERN	6.6	6.6	.6	.4	.6	.4
EASTERN	5.2	5.2	2.1	2.5	1.7	2.1
GEORGIAN BAY	5.2	5.2	1.3	1.3	2.0	2.0
NORTHEASTERN	8.0	8.0	1.7	1.7	1.7	1.7
NORTHWESTERN	7.5	7.5	1.4	1.4	-.3	-.3
SUBTOTAL	5.7	5.7	1.2	1.1	.9	.7
RETAIL						
CENTRAL	9.3	9.3	3.8	2.0	2.9	1.2
WESTERN	14.0	7.5	4.6	-4.4	7.9	-1.4
EASTERN	8.5	8.5	3.6	3.4	3.4	3.1
GEORGIAN BAY	8.7	8.7	4.1	4.1	4.9	4.9
NORTHEASTERN	5.4	5.4	-.6	-.6	-.8	-.8
NORTHWESTERN	16.1	16.1	6.8	6.8	6.8	6.8
SUBTOTAL	9.7	8.4	3.5	1.1	4.1	1.7
DIRECT						
CENTRAL	-6.9	11.2	-10.4	-2.1	1.7	11.4
WESTERN	-.4	3.5	-2.6	.5	-3.1	-.2
EASTERN	-4.3	-4.3	-2.7	-2.7	-1.4	-1.4
GEORGIAN BAY	-5.6	-5.6	-7.3	-7.3	-7.9	-7.9
NORTHEASTERN	-.9	-.0	-1.0	-.7	-1.0	-.8
NORTHWESTERN	-3.0	-3.0	-1.4	-1.4	-2.2	-2.2
SUBTOTAL	-1.9	.3	-2.3	-.9	-2.1	-.9
SYSTEM TOTAL	5.2	5.3	1.0	.7	.8	.6

* EXCLUDES UNALLOCATED
** INCLUDES UNALLOCATED

4.0 UNCERTAINTY IN THE LOAD FORECAST

Table A shows the forecast error made in the determination of the East System annual peak demand over the historical time period 1950-84. The forecast error is seen to be a convenient summary index of uncertainty in the load forecasts made for the future in the Corporation.

Forecast error may be caused by many factors. Some of these factors are: error in energy prices, economic growth, marketing efforts, government policy, and the rate and penetration of technological improvements. By looking at the errors in Table A we attempt to quantify an uncertainty band around our forecast.

The forecast error $e_{t,k}$ is defined as the relative difference between a forecast made in year t for a year k time periods ahead and the actual demand in year t+k

$$e_{t,k} = (f_{t,k} - a_{t+k})/a_{t+k}$$

The forecast error $e_{t,k}$ has two attributes: 1) it is always greater than or equal to -1 and 2) empirically it ha been found to have an exponential process. Therefore, we create a transformed variable $X_{t,k}$ which has the following properties: a) zero mean, b) normal distribution.

$$X_{t,k} = \text{Ln}\ (1+e_{t,k})$$

$$X_{t,k} \approx N(0, \sigma^2)$$

The variance σ^2 is given by the following formula

$$\text{var}(X_{t,k}) = \sigma^2 = E\,[X_{t,k} - E[X_{t,k}]]^2 = \sum_{t=1}^{n} x^2_{t,k}\ /n$$

where n is the number of observations of k year - ahead forecast errors.

We assume that $X_{t,1}$ has a mean growth rate g and a variance S_1^2.

that is: $X_{t,1} = g + u$ where $u \approx N(0, S_1^2)$

$X_{t,k} = Kg + u'$ where $u' \approx (0, KS_1^2)$

Thus, KS_1^2 is the K year-ahead variance for $X_{t,k}$ | $S^2_k = KS_1^2$

If the variance of $X_{t,k}$ were to show no growth then $S_k/\sqrt{K}$ would be a measure of the square root of the within trend mean squared error as well as the square root of the total mean squared error. However, the variance does exhibit growth and the following linear regression is used to explain this behaviour.

$$s_k / \sqrt{k} = \alpha + \beta K$$

This equation is estimated for the East System and yields the following results

East System December Peak: 1950-84

α =.02252027 β =0.005899258

K	S_k	K	S_k
1	0.028420	11	0.262942
2	0.048534	12	0.285680
3	0.069660	13	0.308842
4	0.092235	14	0.332431
5	0.116313	15	0.356448
6	0.141864	16	0.380892
7	0.168839	17	0.405761
8	0.197182	18	0.431053
9	0.218709	19	0.456763
10	0.240622	20	0.482889

The uncertainty limits around the forecast for k years ahead is generated by the preceding table and the following formula, where $Z_{\alpha/2}$ is the normal deviate at the $\alpha/2$ probability.

$$\text{limits} = F_t \exp [\pm Z_{\alpha/2} * S_t]$$

$$Pr \left\{ F_t \exp (Z_{\alpha/2} * S_t) \leq F_t \leq F_t \exp (-Z_{\alpha/2} * S_t) \right\} = 1 - \alpha$$

The distribution of the uncertainty bounds has a log-normal shape. There is therefore no possibility of negative values being encompassed by the uncertainty limits.

TABLE A

EAST SYSTEM FORECAST ERROR (%)*

Year Forecast Made	Years after Forecast 1	2	3	4	5	6	7	8	9	10
1950	-5.6	-11.1	-14.7	-16.6	-18.1	-25.4				
1951	1.1	0.1	-0.4	-1.5	-9.3					
1952	2.2	5.0	6.1	-2.0	-4.1					
1953	2.3	4.0	-2.5	-3.9	-4.1	-6.6				
1954	-0.4	-5.2	-6.0	-5.2	-7.4					
1955	-3.0	-2.5	-1.5	-3.2	-6.7	-5.3				
1956	1.6	5.7	4.8	2.0	3.7	5.2				
1957	2.8	1.5	-0.9	3.4	6.3	6.6	6.2	6.7		
1958	-0.9	-2.2	2.1	4.1	3.8	1.4	1.4	-1.8	-4.7	-3.4
1959	0.1	2.8	6.1	6.4	4.1	4.5	0.6	-2.9	-2.0	-7.4
1960	2.6	5.3	6.0	3.2	3.6	0.4	-2.9	-1.6	-6.6	-6.2
1961	1.9	3.2	0.8	0.6	-3.0	-5.4	-3.7	-8.3	-7.8	-8.5
1962	1.0	-1.9	-1.6	-4.8	-7.5	-6.6	-10.6	-10.1	-10.7	-7.1
1963	-2.7	-2.3	-6.0	-8.6	-7.1	-11.6	-10.8	-11.3	-7.5	-10.7
1964	-1.6	-4.4	-6.5	-5.3	-9.4	-8.7	-9.4	-6.4	-4.4	-5.1
1965	-1.2	-3.7	-1.5	-5.9	-5.2	-5.8	-1.7	-5.1	-5.6	0.0
1966	-1.0	0.2	-5.9	-4.2	-4.8	-0.6	-4.0	-4.4	1.7	0.1
1967	1.2	-3.1	-2.0	-2.2	2.4	-0.8	-1.0	5.5	4.2	3.3
1968	-0.3	1.7	1.7	7.0	3.2	2.7	9.5	8.2	7.3	16.5
1969	0.9	1.9	7.0	5.2	5.6	13.0	11.3	10.3	19.8	27.4
1970	1.0	6.7	5.7	5.5	12.0	10.9	9.8	19.2	26.8	30.5
1971	6.2	3.4	3.6	10.1	9.0	8.0	17.3	24.8	28.4	33.1
1972	1.9	2.0	8.6	7.2	6.0	15.0	22.3	25.9	30.4	41.5
1973	0.4	7.9	7.5	6.5	15.6	22.9	26.5	31.1	42.2	50.0
1974	6.3	6.3	7.0	17.4	26.0	29.7	34.4	45.8	53.9	47.5
1975	1.1	1.8	12.2	21.0	24.3	28.4	39.2	46.7	40.5	56.3
1976	-1.9	8.0	15.9	19.0	23.0	33.0	40.0	34.0	48.9	40.2
1977	5.8	13.0	15.6	19.6	29.4	35.9	29.4	43.2	34.3	47.4
1978	4.7	6.0	8.4	16.0	20.7	14.1	25.2	16.5	26.7	30.0
1979	1.4	1.2	6.7	10.7	4.4	14.4	5.9	14.6	17.0	19.6
1980	1.2	6.8	10.7	4.0	12.2	2.5	9.5	10.4	11.4	12.8
1981	3.4	5.1	-2.5	5.0	-3.9	2.7	3.6	4.7	6.0	7.1
1982	4.8	-2.9	4.8	-4.4	2.0	2.8	3.5	4.4	5.0	5.8
1983	-6.3	1.5	-7.5	-1.5	-1.4	-1.4	-1.4	-1.9	-2.6	-3.6
1984	4.8	-4.5	0.8	1.0	1.2	1.4	0.8	1.3	1.3	0.8
1985**	-5.2	-	-	-	-	-	-	-	-	-

* Difference between forecast made 1 to 10 years prior to year indicated divided by actual. A negative sign indicates forecast is too low.

**Figures in bold are predicted errors of previous forecast assuming actual = 851209. Positive figures indicate the percentage deviation of previous forecasts from the 1985 forecast.

5.0 GLOSSARY

5.1 Demand (versus Load)

Demand means the electrical output from the Corporation's generating resources together with outside purchases required to supply the load of the Corporation's customers. In this report demand refers to the level of demand at the generating stations, while load refers to the flow of electricity at the wholesale billing points. Each term refers to peak or energy as specified in context.

Power means an instantaneous time rate of delivery of energy. Peak refers to the power averaged over a short period during which time the load is at its maximum. Energy demand is the accumulation of power over time, which results in an amount of useful work (or heat, lighting etc.)

In this report energy is reported in units of terawatt-hours or else in average megawatts. To obtain average megawatts for a period of time, the megawatt-hour figure is divided by the number of hours in the period.

Annual and Winter Peak Demand

All peak demands shown in this report incorporate the effects of typical weather conditions associated with the monthly peak demands. Under these conditions the annual peak demand occurs in December and the winter peak normally occurs in January.

Primary Peak Demand

Primary Peak Demand is the total generated and purchased minus secondary sales.

Secondary sales is power provided at the convenience of Ontario Hydro on a noncontractual basis usually to interconnected utilities. This element is not forecast in this report.

Primary Demand in Terms of Generation

Primary Peak Demand is the sum of the customers' peak requirements (not necessarily coincident with the system peak) adjusted by an allowance for diversity and losses. This figure gives the primary peak demand at the level of the generating stations.

- Peak - The figures shown are those for the time of the maximum 1-hour or 20-minute peak demand.

  An allowance for the weather effect expected on the typical monthly peak day is incorporated into the Primary Peak Demand for each month. Diversity and losses are affected by extreme weather as well.

- Energy - Monthly energy demands shown in this report are expressed in terawatt hours and average megawatts, in order to give an immediate impression of load factor, and also to make successive monthly values independent of differences arising solely from the varying lengths of the months.

Ontario Primary Demands in Terms of Generation

East System

Includes:

The primary power and energy loads of Municipalities, Industrial Customers, and Retail Customers in Ontario within the geographic boundaries of the Central, Western, Eastern, Georgian Bay and Northeastern Regions, together with appropriate diversity and losses.

Power and energy delivered free of charge by Ontario Hydro to Spruce Falls Power and Paper Company Limited in compensation for the effects of Little Long Generating Station on the Company's Smoky Falls Generating Station.

Excludes:

Power and energy exported to the United States and the Province of Quebec. Also excluded are deliveries under exchange agreements, namely, to Fort Erie on behalf of the C.N.P. Company, and to Cornwall on behalf of the St. Lawrence Power Company. In both of these cases the amount of power delivered is made up at another point on the system so that there is no resultant demand on the Corporation's resources.

The loads of retail customers in Hornepayne, although customers of the Northeastern Region, because they are supplied from power resources within the Northwestern Region.

West System

Includes:

The primary power and energy loads of Municipalities, Direct and Retail Customers in Ontario within the geographic boundaries of the Northwestern Region, and the loads of retail customers in Hornepayne together with appropriate diversity and losses. The latter customers are included because they are supplied from resources within the Northwestern Region.

Power and energy delivered free of charge to Boise Cascade Company (Kenora), as compensation for the effects of Whitedog Falls Generating Station on the output of its generating stations.

Excludes:

Power and energy exported by Ontario Hydro to the United States and the Province of Manitoba.

Power and energy delivered to Boise Cascade at Port Frances in exchange for the output of the Company's Calm Lake and Sturgeon Falls Generating Stations.

Ontario primary demands (both East and West Systems) exclude the delivery of turbo replacement power to various paper companies.

5.2 Diversity and Losses

Diversity is the difference between the sum of (individually metered) customer loads at the time of system peak and the arithmetic sum of the peak loads of all the customers regardless of whether they coincide with the system peak or not. Since individual customers experience their peak loads at diverse times, the arithmetic sum of their peak loads will be greater than the sum of customer loads at the time of system peak, and therefore the valve for diversity is always negative.

Losses are the sum of electrical losses and consumption incurred in transmitting the electricity from the generating stations' terminals to all the customer metering points. This is evaluated by taking the difference between customer loads and system demands measured at the generating stations.

The figure for diversity and losses together will be positive if losses exceed diversity, and negative when diversity exceeds losses.

Diversity is a function of the timing of end-use utilization which is affected by social patterns and weather conditions. Losses are due mainly to transmission line loadings determined by system configuration and operation. System operation depends on hydraulic generation resources, export and circulating power flow, outages, etc.

There is no diversity in energy demand. The difference between the primary energy and the energy delivered to customers is losses.

5.3 Customers' Loads

Customers' Loads are the maximum peak loads of system customers which include cost contract municipalities, industrial customers and retail customers. Estimates of these loads are provided by the Regional Marketing Managers. The totals of these non-coincident customers' loads are referred to as the sums of customers' loads with appropriate qualifications for regional and other classifications.

The forecasts of Area loads in this report conform to the Power Billing Department, Customer Service Division practice of obtaining Area loads by summing the non-coincident loads of the D.S.'s supplying it.

5.3.1 Firm Loads

Firm Loads are supplied as required by the customer at all times as far as physical conditions permit.

5.3.2 Capacity Interruptible Loads

In general, capacity interruptible loads are those which can be interrupted under contract provisions which exchange interruptibility for the lower rates. Capacity interruptible power is the only class available. This class of power is available only for loads which can be reduced by at least 5,000 KW during interruption periods.

The sum of interruption periods shall not exceed the following:

(1) In any month up to 15% of the total time in the month.

(2) In any year up to 10% of the total time in the year.

(3) In any 5 consecutive years up to 5% of the total time in the 5 year period.

The purpose of supplying this class of power is to enable Ontario Hydro to reduce the generation reserves it would otherwise provide for, and to serve as a means of system relief under emergency conditions and other unpredictable circumstances.

Interruption Periods - (applicable Monday to Friday inclusive)

March to November inclusive - up to 5 hours per day
December, January and February - up to 14 hours per day

The customers' loads in this report are composed of the total firm and capacity interruptible. Therefore, in this report, the demands shown assume that rights of interruption under Capacity contracts are not exercised.

The amounts of power under contract within this class can therefore be regarded as being served out of reserve capacity planned for other purposes. No capacity is planned to meet interruptible loads.

As can be seen from the table under 1.2.4, 78 MW of capacity interruptible contracts are forecast to be added in the period of 1985-90. Due to the changing shape of the system duration curve and to diversity among these customers, the task of translating non-coincident interruptible loads into the potential capacity savings from primary load cuts requires that allowance be made for diminishing effectiveness of successive increments of interruptible contract.

5.4 Standby Power

The Corporation has undertaken to supply standby power to the following customers who have their own generation.

	Standby Amount
Boise Cascade - Kenora	10.5 MW
Boise Cascade - Fort Frances	8.0 MW
Eddy Forest Industries Ltd.	7.5 MW
Gananoque Elec. Light & Water	1.25MW
Great Lakes Forest Products (44 kV)	6.0 MW
Great Lakes Forest Products	17.1 MW
MacMillan Bloedel	1.8 MW

No specific allowance has been made for increases in the customers' load or system demands from standby requirements of customers.